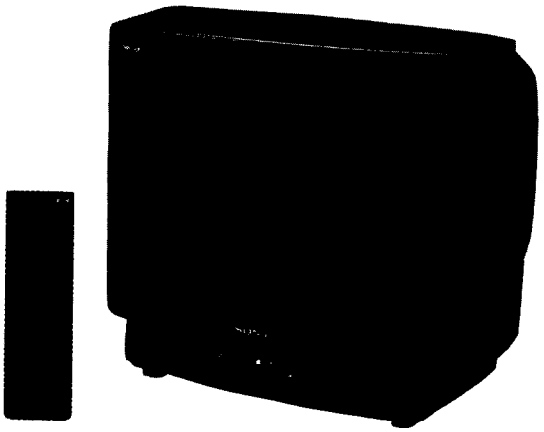
KV-M1620D
RM-694

SERVICE MANUAL

AEP Model

Chassis No. SCC-D85B-A



BE-2A CHASSIS

MODELS OF THE SAME SERIES	
KV-M1620D	
KV-M1420D	

SPECIFICATIONS

【KV-M1620D】

Television system	B/G/H
Color system	PAL, SECAM
Channel coverage	VHF : E2-E12 ,S1-S20 UHF : E21-E69
Picture tube	Black Trinitron tube 90° degree deflection Approx. 40.1 cm (16 inches) (Approx.37.3cm picture measured diagonally)
Inputs	21-pin connector : CENELEC standard Including RGB input Audio/Video input jacks : phono jacks
Outputs	21-pin connector : CENELEC standard Headphones jack : minijack
Sound output	5 W (Music)
Power consumption	54 Wh
Dimensions	Approx. 399x413x365 mm (w/h/d)
Weight	Approx. 12.5 kg

【RM-694】

Remote control system	infrared control
Power requirements	3V dc 2 batteries IEC designation R6 (size AA)
Dimensions	Approx. 55×18×185mm (w/h/d)
Weight	Approx. 100g including batteries
Accessories supplied	IEC designation R6 batters (2)
Supplied accessories	RM-694 Remote Commander (1) IEC designation R6 batteries (2)

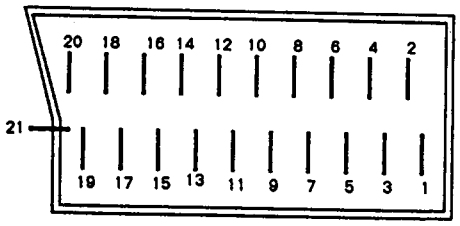
Design and specifications are subject to change without notice.

MICROFILM

TRINITRON® COLOR TV

SONY®

21-pin Euro Connector Configuration



PIN	SIGNAL	SPECIFICATION
1	Audio output	0.5Vrms/1kilohm or less
2	Audio input	0.5Vrms/10kilohms or more
3	Audio output	0.5Vrms/1kilohm or less
4	Earth (audio)	
5	Earth (B-input)	
6	Audio input	0.5Vrms/10kilohms or more
7	B-input	0.7Vp-p/75ohms
8	Function switching	9.5V to 12V
9	Earth (G-input)	
10		
11	G-input	0.7Vp-p/75ohms
12		
13	Earth (R-input)	
14	Earth (blanking)	
15	R-input	0.7Vp-p/75ohms
16	Fast blanking	1V to 3V/75ohms
17	Earth (video)	
18	Earth (fast blanking)	
19	Video output	1Vp-p/75ohms
20	Video input	1Vp-p/75ohms
21	Screening plug	

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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Note) The layout, etc., will be slightly different from the operating instructions packed with the units.

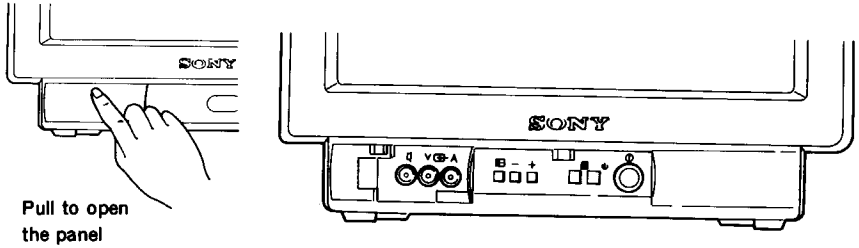
SECTION 1
GENERAL

1-1. INDEX OF THE PARTS

In the following you will find a short description of the parts and their function on the set or on the remote commander using the respective symbols. For more details reter to the page number given in the index.

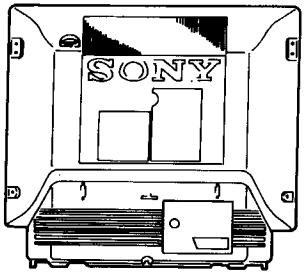
TV set

Front

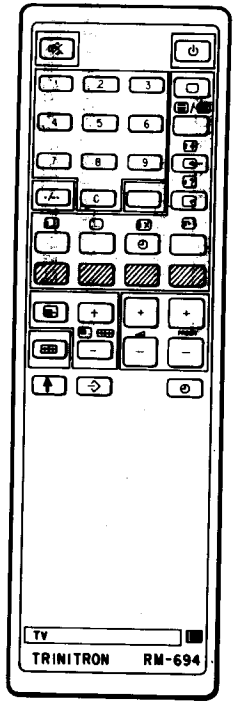


Pull to open the panel

Rear



Remote Commander



TV set

Symbol	Function
🎧	Headphones jack (mini-jack)
V	Video Input jack
A	Audio input jack
+/−	Buttons for Sound and picture adjustment
+/−	Programme scanning buttons
IR	Remote control detector
⏻	Standby indicator
⏻	Power switch
⊤	Aerial socket (rear of the set)
	21-Pin connector (rear of the set)

Remote Commander

Symbol	Function
🔇	Mute button
1−9, 0, −/−−	Number buttons − in case of two digit numbers first press button −/−− and then two number buttons
✱	Button has no function
	Select button for picture adjustment item
+/−	Buttons for adjustment picture items
↑ and +/−	Buttons for manual fine tuning of a channel
→ • ←	Button for resetting the picture adjustment items to standard
C	Button for clearing a programme position (in preset mode)
↑	Functions only in combination with other buttons
and ↑	Preset mode on/off buttons
⏻	Buttons for switching the TV set into standby mode
	Used to return to TV-mode from stadby and video input modes
	Button for selecting the video input mode
	On/off button for onscreen display
PROGR +/−	Programme scanning butlons
+/−	Buttons for adjusting the volume
	Button for activating the sleep timer

Note Buttons not referred to in this index have no function.

1-2. TO PRESET CHANNELS

The control buttons to preset channels are located on the Remote Commander. (Up to 60 programme positions are at your disposal.)

1 Press the power switch on the set to switch it on.

2 Press both the ↑ (shift) button and the ◈ (preset) button simultaneously. You are now in the preset mode.

3 Use either button PROGR + (upwards) or PROGR − (downwards) to select the required programme position.

4 Press both the ↑ button and the ⇔ + or − button repeatedly until the desired TV station is found.

5 Repeat steps 3 and 4 for all other channels.

6 Press once more both the ↑ button and the ◈ (preset) button in order to return to the TV mode and to store the channels.

Skipping of programme positions

Using both the button C and the ↑ button you have the possibility to skip unused programme positions (e.g. without a stored station) when pressing the PROGR +/− buttons.

1 Press both the ↑ button and the ◈ (preset) button to select the preset mode.

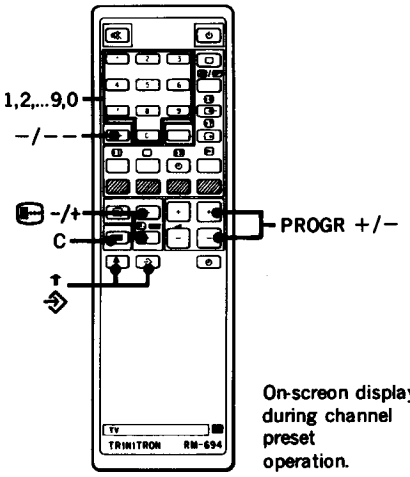
2 Select the programme position to be skipped by pressing the + or − PROGR button.

3 Press the C button.

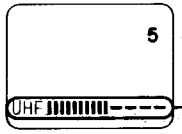
4 Prees both the ◈ (preset) button and the ↑ button to return to the TV mode.

Manual Fine Tuning

If the reception of a channel is not satisfactory you have the possibility to deactivate the Automatic Fine Tuning which usually tunes in the best possible picture during presetting.
Press both the ↑ button and the ⇔ + or − button to fine ture the channel. By pressing the respective programme number the automatic Fine Tuning will be restored.

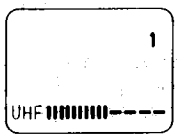


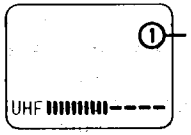
On-screen display during channel preset operation.



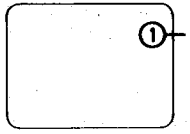
Programme position flashes.

Indicates the approximate location in the band of the channel being tuned in.





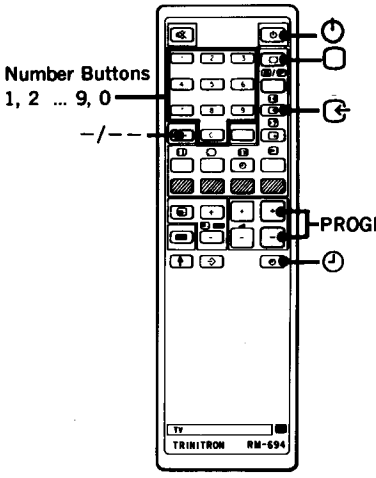
Programme number stops flashing.



On-screen display after presetting.

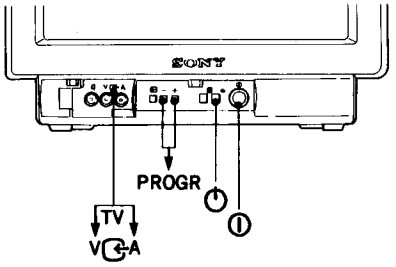
1-3. DAILY USE OF THE TV

Your TV set is supposed to be operated with the Remote Commander, for the basic functions however it is also possible to use the buttons on the set itself.



- **Switching the set on**
  Press the power switch on the set to switch the TV on. if the set is switched on. the green indicator on the set lights up, if it is in standby mode the red indicator lights up (see also 'Standby mode').
- **Switching the set off**
  Press the power switch on the set to switch the TV off.
- **Selection of programmes**
  Press the respective number button 1,2, − − − 9 on the remote commander.
  In the case of two digit numbers, first press button −/− − and then the two respective number buttons.
  With the PROGR +/− buttons you can scan the programme positions (+ upwards, − downwards).
  On the Set
  Press the − button for lower programme positions and the + button for higher ones.
- **Standby mode**
  There are two possibilities to put the set into standby mode.

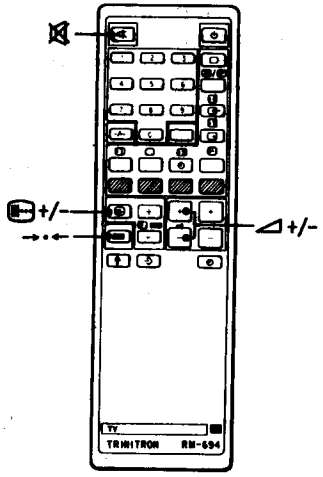
1. **Directly**
   Press the button ⏻ on the remote commander. The red indicator ⏻ on the set lights up.
   Note :
   Use the standby button only for shift breaks. if the set will not be used for a longer time span, use the power switch ⏻ to switch the set off.
2. **By using the sleep timer**
   Press the ◴ button repeatedly until the required time period is displayed on the screen (30, 60, 90 or 0 for cancelling of the operation).
   In this way you can select the time perlod after which the set switches itself automaticaily into standby mode.

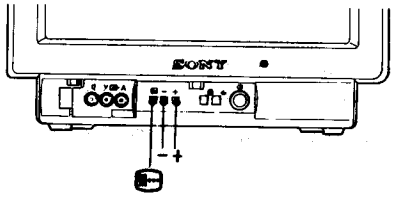


Switching the set on out of standby mode
Press the ▢ button or one of the number buttons on the remote commander.

- **On-screen display**
  Press the ▢ button to display the programme number on the screen and press the button once more to make it disappear.
- **Selecting the signal of the connected device**
  Press the ⇔ button to receive the signal of the device (e.g. a video recorder) connected at the V ⇔ A connectors or the 21 -pin connector (rcar of the set).
  Press the ▢ button to return to the TV mode.

1-4. PICTURE AND SOUND ADJUSTMENTS





- **Volume**
  Press the button ◿ + to increase the volume and the button ◿ − to decrease it.

  On the set
  Press the button until ◿ is displayed on the screen and adjust the volume with the − or + button.

- **Modification of the picture presettings**
  Press the button on the commander to select either contrast, colour intensity, or brightness ☼ (the respective indication is displayed on the screen). Adjust the settings by pressing the + or − button.

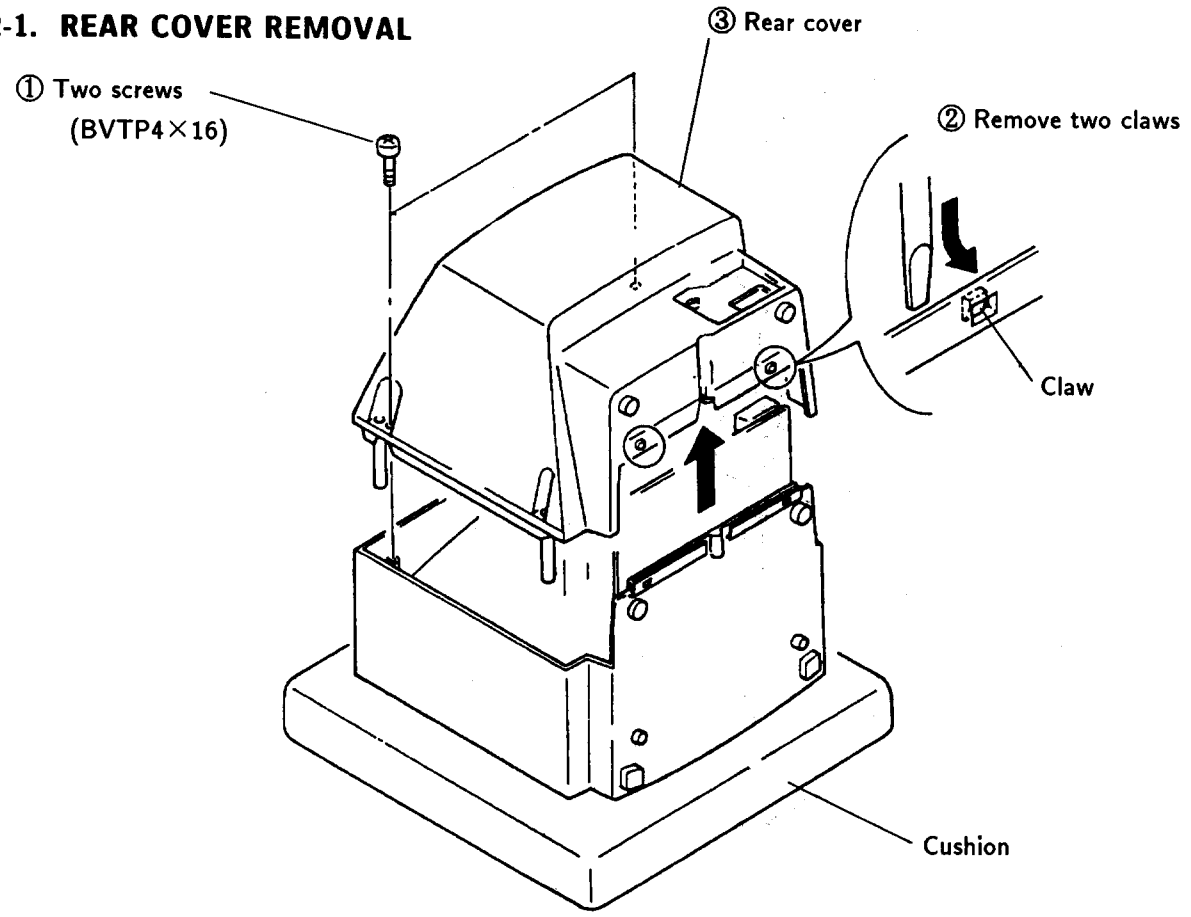
  To return to factory-set levels
  Press the reset button → • ← to return to the preset picture leves.

  On the set
  Press the button in order to select the requested item (contrast, colour intensity, brightness ☼, and adjust with the + or − button.

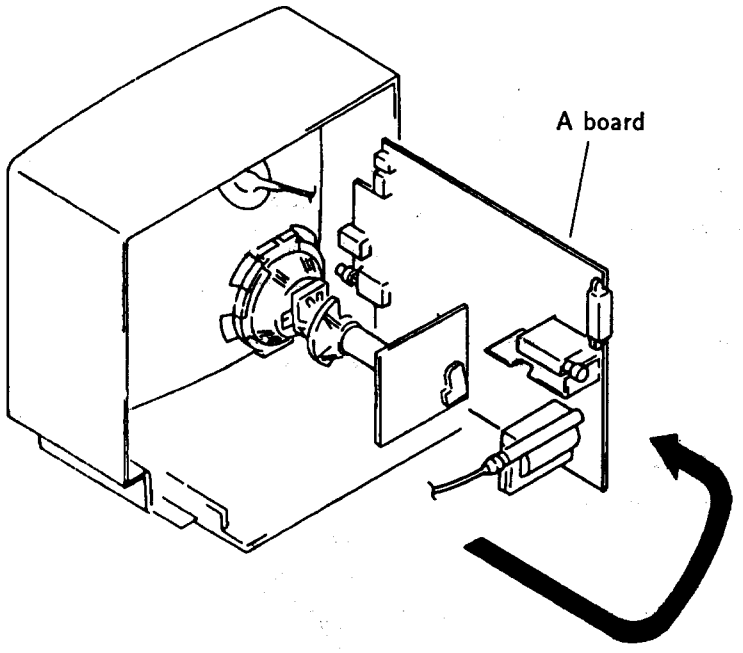
- **Muting the sound**
  Press the button to switch off the sound. Press the button again to restore the sound.

SECTION 2
DISASSEMBLY

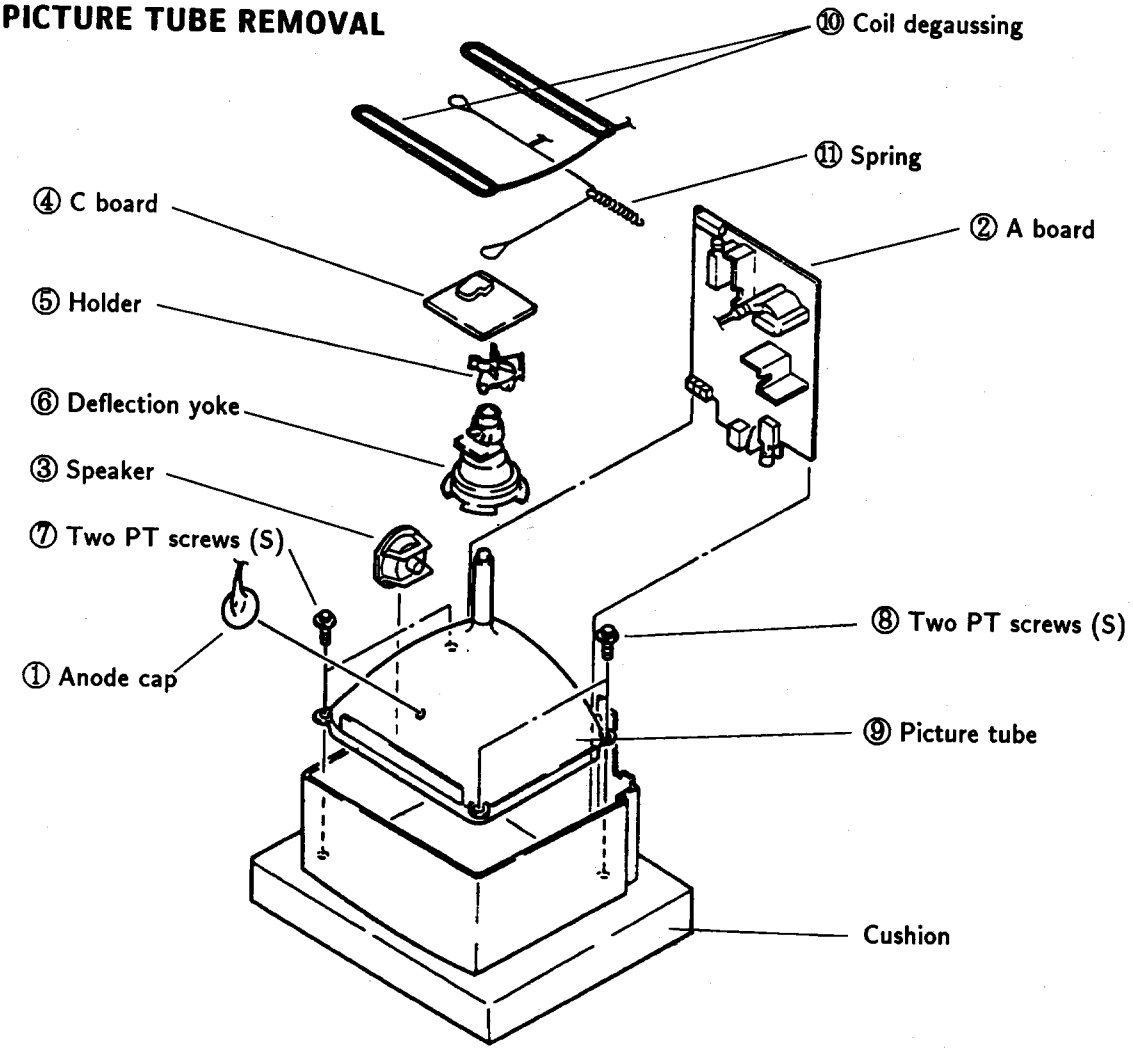
2-1. REAR COVER REMOVAL



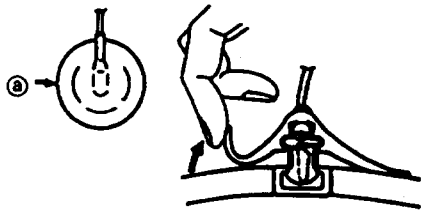
2-2. SERVICE POSITION



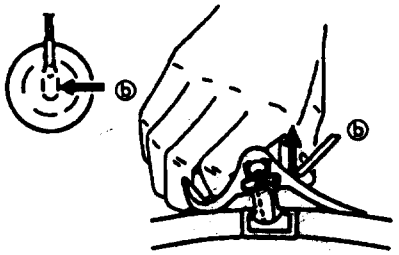
2-3. PICTURE TUBE REMOVAL



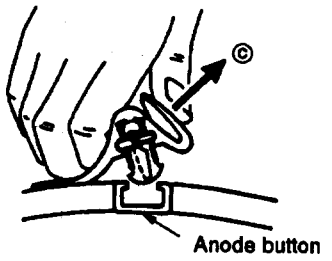
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



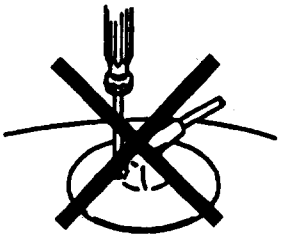
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

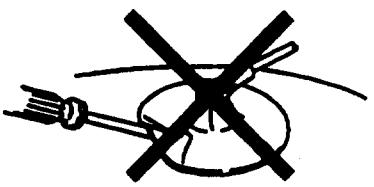
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SET-UP ADJUSTMENTS

● The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

● These adjustments should be performed with rated power supply voltage unless otherwise noted.

The controls and switch below should be set as follows unless otherwise noted :

◑ CONTRASTcontrol ..... 80%(or Normal by commander)

☼ BRIGHTNESS control 50%

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G 2) and White Balance

Note: Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

Preparation:

● Set the side of the unit with the PICTUE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.

● Turn the power switch for the unit ON and erase the magnetic force using a degausser..

3-1. BEAM LANDING

Demagnetize with a degausser

1. Input a raster signal with the pattern generator.
   CONTRAST, BRIGHTNESS } normal
2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides evenly. (Fig.3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig.3-1)
5. Switch over the raster signal to blue and blue and confirm the condition.
6. When the position of the deflection yoke is determined,tighten it with a deflection yoke mounting screw.
7. When landing at the corner is not right, adjust by using the disk magnets. (Fig.3-4)

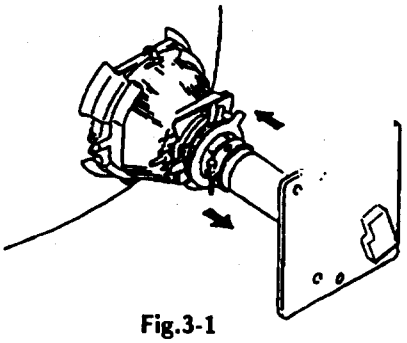


Fig.3-1

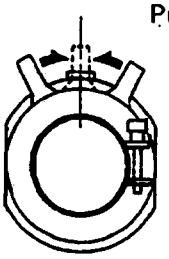


Fig.3-2

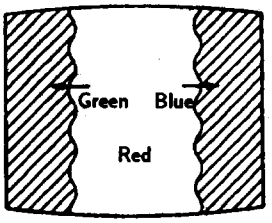


Fig.3-3

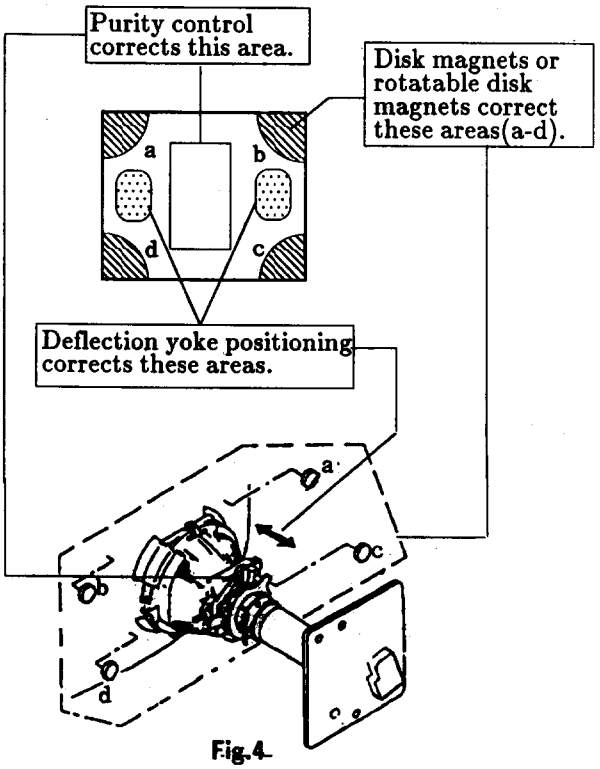


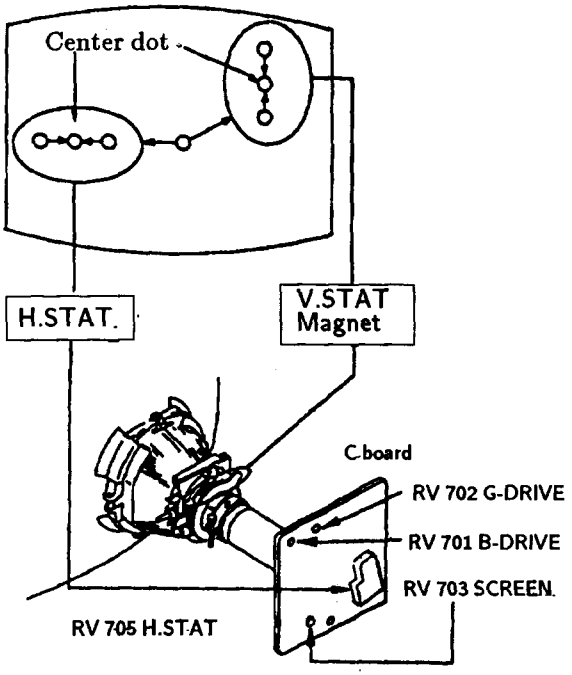
Fig.4

3-2. CONVERGENCE

Preparation:

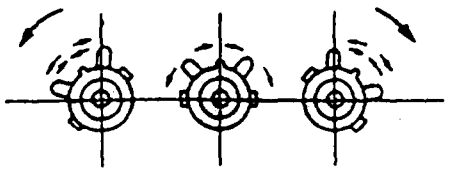
- Before starting, perform FOCUS, H.SIZE, and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

(1) Horizontal and Vertical Static Convergence

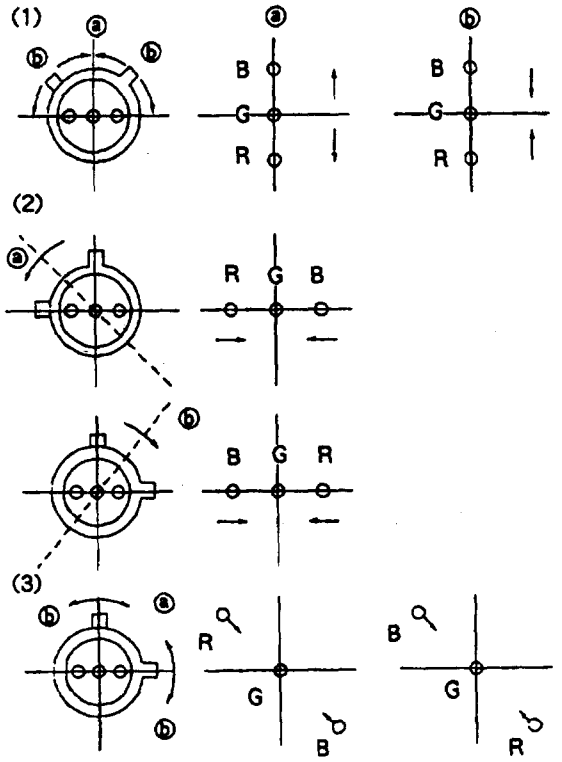


1. Adjust H.STAT VR to converge red, green and blue dots the in center of the screen.(Horizontal movement)
2. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
3. If the red, green and blue dots do not converge on the center of screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)

- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



4.When the V.STAT magnet is moved in the direction of arrow ⓐ and ⓑ, red, green and blue dots move as shown below.

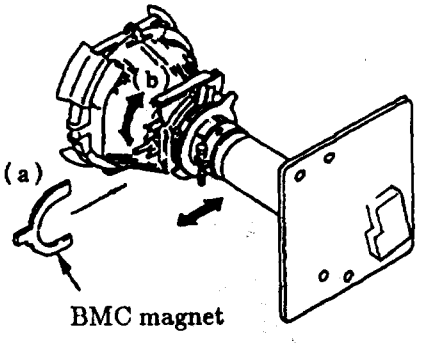


If the red and blue dot do not converge with green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H.static convergence.

Rotate BMC magnet (b) to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.

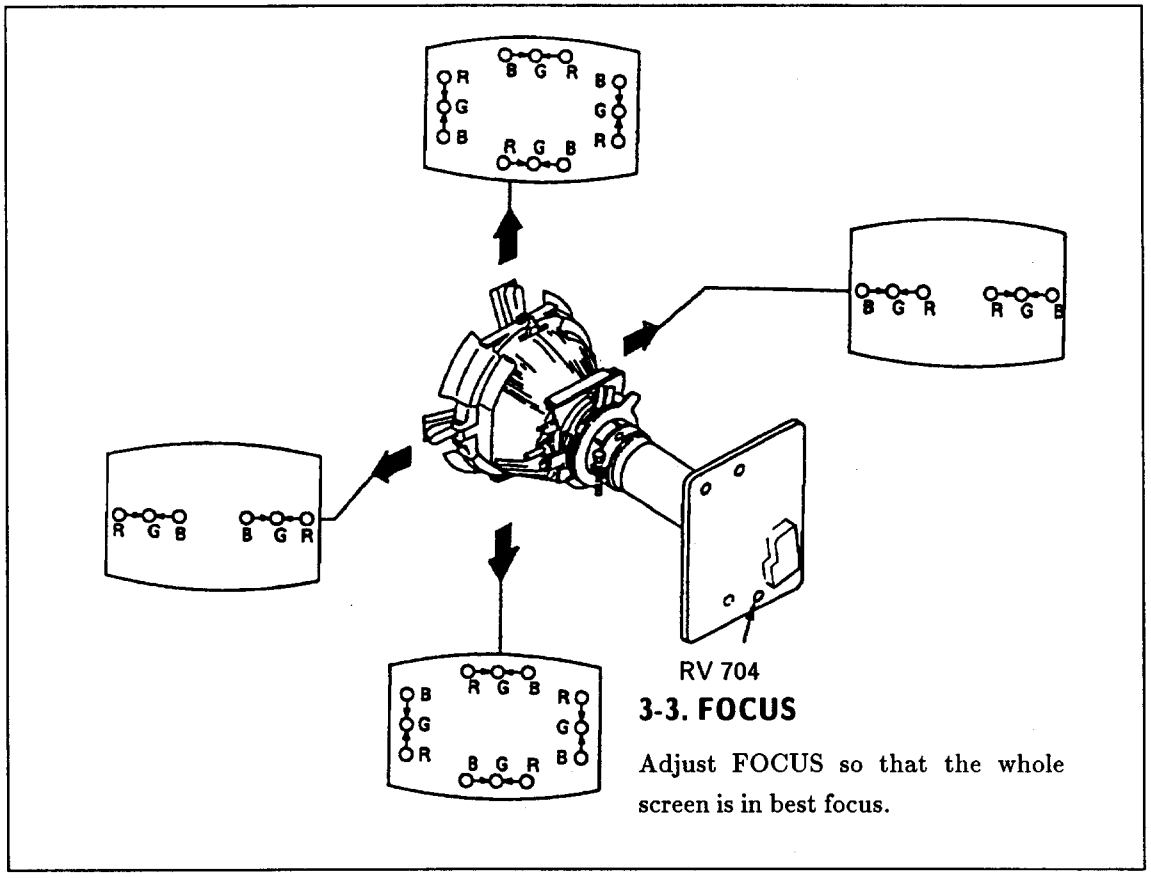


(2)Dynamic Convergence Adjustment

Preparation:

- Before starting perform Horizontal and Vertical static convergence Adjustment.

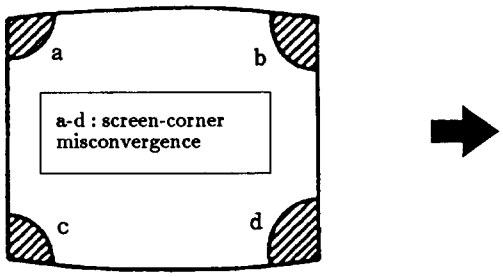
1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

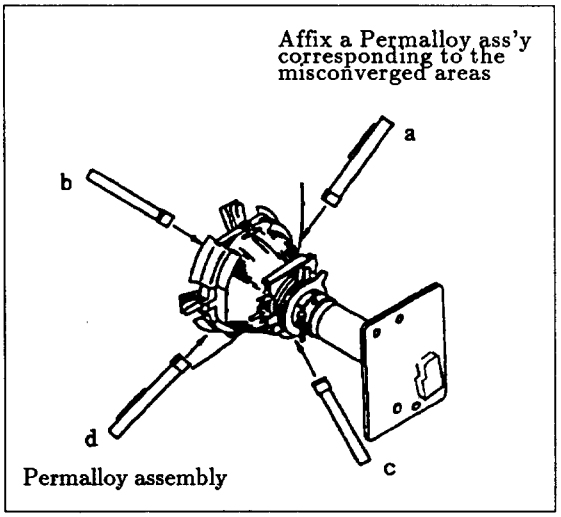


3-3. FOCUS

Adjust FOCUS so that the whole screen is in best focus.

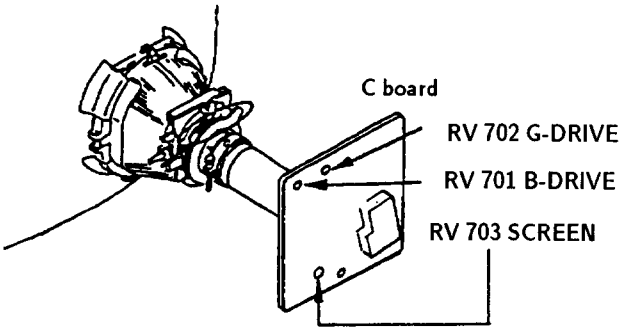
(3) Screen-corner Convergence





SECTION 4
CIRCUIT ADJUSTMENTS

3-4. SCREEN (G 2) and WHITE BALANCE



Screen (G 2) Setting

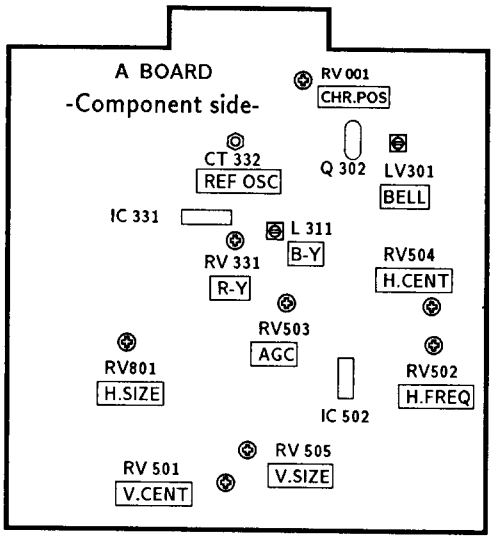
1. Input dot signal from the pattern generator.
2. Set the picture BRIGHTNESS control to minimum level.
3. Apply 140 V DC to the cathodes of R,G and B from an external power power source.
4. While watching the picture, adjust the G 2 volume (RV703) immediately before fly-back line disappears.

White Balance Adjustment

1. Input all-white signal from the pattern generator.
2. Adjust the BRIGHTNESS and COLOR controls to the standard level.
3. Adjust the following using RV 701 (B DRIVE) and RV 702 (G DRIVE)

In the following adjustments, the CONTRAST, COLOR and BRIGHTNESS controls are set to normal unless otherwise specified.

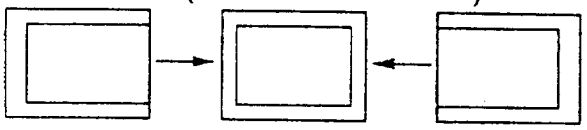
4-1. A BORAD ADJUSTMENTS



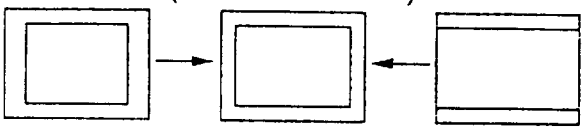
TU AGC Adjustment (RV 503)

1. Tune in air signal.
2. Adjust AGC VR (RV 503) so that snow-noise and cross-modulation just disappear from the picture.

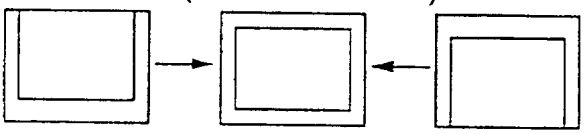
RV 504 H.CENT (HORIZONTAL CENTER)



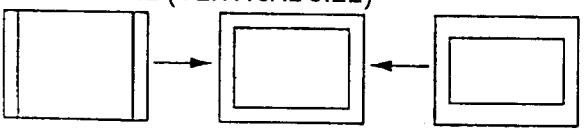
RV 801 H.SIZE (HORIZONTAL SISE)



RV 501 V.CENT (VERTICAL CENTER)



RV 505 V.SIZE (VERTICAL SIZE)



H.FREQ Adjustment (RV 502)

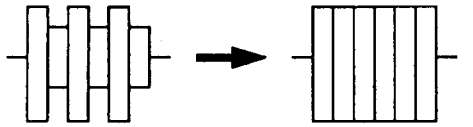
1. Input a PAL COLOR BAR signal, then connect an electrolytic capacitor (100 μ/16 V) between pin㉘ and GND of IC 502.
2. Adjust RV 502 (H.FREQ) to stop scrolling of the picture in the horizontal direction.
3. After adjustment, remove the electrolytic capacitor.

REF OSC 8.8 MHz Adjustment (CT 332)

1. Input a PAL COLOR BAR pattern.
2. Short circuit between pin⑰ of IC 331 and ground.
3. Adjust CT 332 to obtain color synchronization.
4. Remove the jumper wire from IC 331.

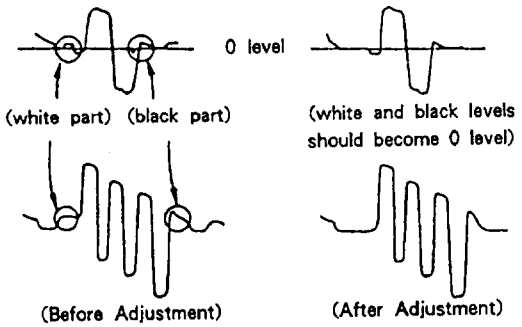
BELL FILTER Adjustment (LV 301)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to rhe Q 302 emitter.
3. Adhust LV 301 so that waveform becomes flat.



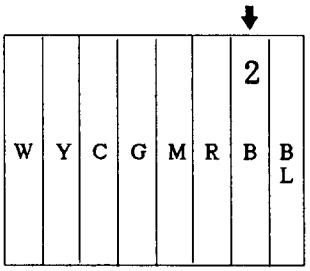
SECAM DISCRI Adjustment (RV 331 R-Y L 331 B-Y)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to pin ① of IC 301.
3. Adjust RV 331(R-Y) so that white and black parts of the waveform of pin ① becomes 0 lecel.
4. Connect an oscilloscope to pin ③ of IC 301.
5. Adjust L 331(B-Y) so that white and black parts of the waveform of pin ③ becomes 0 level.



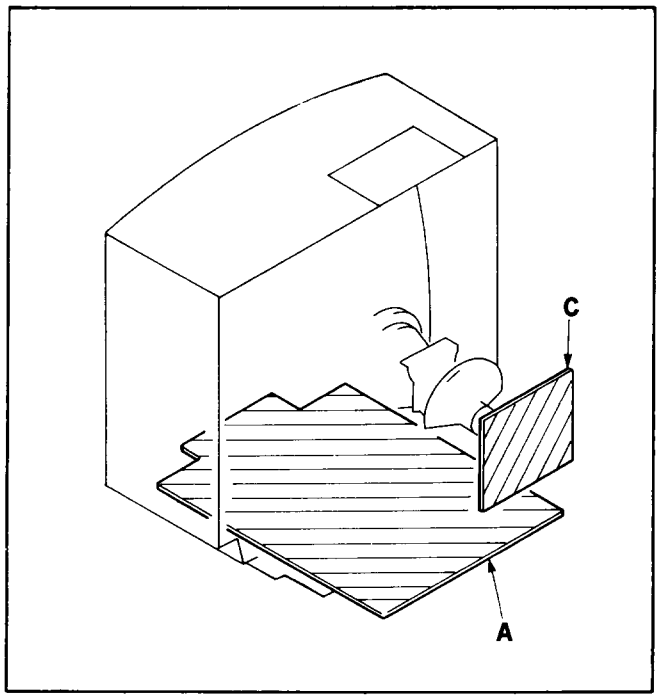
CHARACTER POSITION Adjustment (RV 001)

1. Input PAL COLOR BAR pattern.
2. Adjust RV 001 to position the charcter display at the point indicated by the arrow below.



SECTION 5
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



Reference information

RESISTOR	:	RN	METAL FILM
	:	RC	SOLID
	:	FPRD	NONFLAMMABLE CARBON
	:	FUSE	NONFLAMMABLE FUSIBLE
	:	RS	NONFLAMMABLE METAL OXIDE
	:	RB	NONFLAMMABLE CEMENT
	:	RW	NONFLAMMABLE WIREWOUND
	:	*	ADJUSTMENT RESISTOR
COIL	:	LF-8L	MICRO INDUCTOR
CAPACITOR	:	TA	TANTALUM
	:	PS	STYROL
	:	PP	POLYPROPYLENE
	:	PT	MYLAR
	:	MPS	METALIZED POLYESTER
	:	MPP	METALIZED POLYPROPYLENE
	:	ALB	BIPOLAR
	:	ALT	HIGH TEMPERATURE
	:	ALR	HIGH RIPPLE

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note :

- All capacitors are in μF unless otherwise noted.
  pF : μμF 50WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

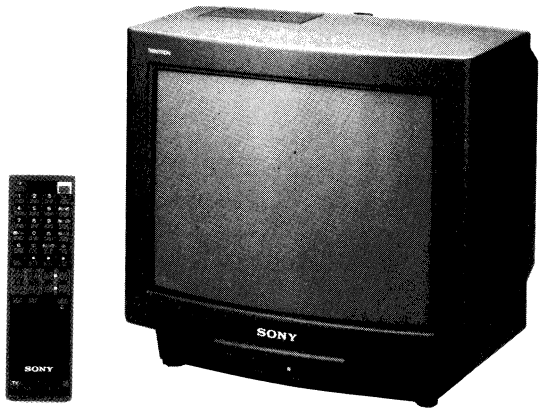
Pitch : 5mm Rating electrical power : 1/4W

- Chip resistor is in 1/10W.
- All resistors are in ohms. kΩ = 1000Ω, MΩ = 1000k Ω
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B.unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ▬▬ : B + line.
- : signal path.

KV-M1420D
RM-694

SERVICE MANUAL

AEP Model
Chassis No. SCC-D85A-A



BE-2A CHASSIS

MODELS OF THE SAME SERIES	
KV-M1420D	

SPECIFICATIONS

【KV-M1420D】

Television system	B/G/H
Color system	PAL, SECAM
Channel coverage	VHF : E2-E12 ,S1-S20 UHF : E21-E69
Picture tube	Black Trinitron tube 90° degree deflection Approx. 36.8 cm (14 inches) (Approx.33.7cm picture measured diagonally)
Inputs	21-pin connector : CENELEC standard Including RGB input Audio/Video input jacks : phono jacks
Outputs	21-pin connector : CENELEC standard Headphones jack : minijack
Sound output	5 W (Music)
Power consumption	47 Wh
Dimensions	Approx. 354x325x407.5 mm (w/h/d)
Weight	Approx. 10.5 kg

【RM-694】

Remote control system	infrared control
Power requirements	3V dc 2 batteries IEC designation R6 (size AA)
Dimensions	Approx. 55×18×185mm (w/h/d)
Weight	Approx. 100g including batteries
Accessories supplied	IEC designation R6 batters (2)
Supplied accessories	RM-694 Remote Commander (1) IEC designation R6 batteries (2)

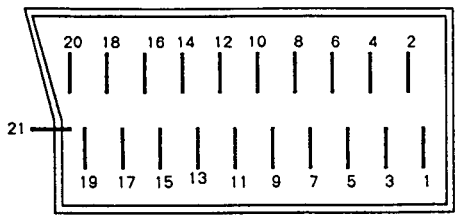
Design and specifications are subject to change without notice.

MICROFILM

TRINITRON® COLOR TV

SONY®

21-pin Euro Connector Configuration



PIN	SIGNAL	SPECIFICATION
1	Audio output	0.5Vrms/1kilohm or less
2	Audio input	0.5Vrms/10kilohms or more
3	Audio output	0.5Vrms/1kilohm or less
4	Earth (audio)	
5	Earth (B-input)	
6	Audio input	0.5Vrms/10kilohms or more
7	B-input	0.7Vp-p/75ohms
8	Function switching	9.5V to 12V
9	Earth (G-input)	
10		
11	G-input	0.7Vp-p/75ohms
12		
13	Earth (R-input)	
14	Earth (blanking)	
15	R-input	0.7Vp-p/75ohms
16	Fast blanking	1V to 3V/75ohms
17	Earth (video)	
18	Earth (fast blanking)	
19	Video output	1Vp-p/75ohms
20	Video input	1Vp-p/75ohms
21	Screening plug	

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SECTION 1
GENERAL

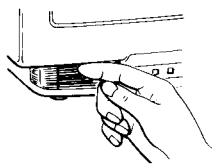
Note) The layout, etc., will be slightly different from the operating instructions packed with the units.

1-1. INDEX OF THE PARTS

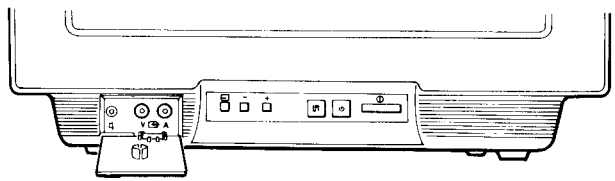
In the following you will find a short description of the parts and their function on the set or on the remote commander using the respective symbols. For more details reter to the page number given in the index.

TV set

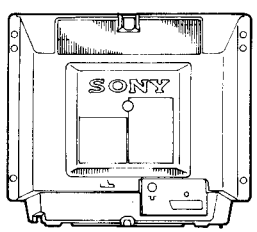
Front



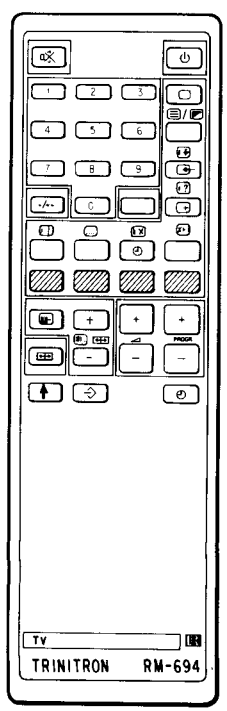
Pull to open the panel



Rear



Remote Commander



TV set

Symbol	Function
	Headphones jack (mini-jack)
V	Video Input jack
A	Audio input jack
+/−	Buttons for Sound and picture adjustment
+/−	Programme scanning buttons
	Remote control detector
	Standby indicator
	Power switch
	Aerial socket (rear of the set)
	21-Pin connector (rear of the set)

Remote Commander

Symbol	Function
	Mute button
1−9, 0, −/−−	Number buttons − in case of two digit numbers first press button −/−− and then two number buttons
	Button has no function
	Select button for picture adjustment item
+/−	Buttons for adjustment picture items
↑ and +/−	Buttons for manual fine tuning of a channel
→ • ←	Button for resetting the picture adjustment items to standard
C	Button for clearing a programme position (in preset mode)
↑	Functions only in combination with other buttons
and ↑	Preset mode on/off buttons
	Buttons for switching the TV set into standby mode
	Used to return to TV-mode from stadby and video input modes
	Button for selecting the video input mode
	On/off button for onscreen display
PROGR +/−	Programme scanning butlons
+/−	Buttons for adjusting the volume
	Button for activating the sleep timer

Note Buttons not referred to in this index have no function.

1-2. TO PRESET CHANNELS

The control buttons to preset channels are located on the Remote Commander. (Up to 60 programme *positions are at your disposal.)*

1 Press the power switch on the set to switch it on.

2 Press both the ↑ (shift) button and the ⇩ (preset) button simultaneously. You are now in the preset mode.

3 Use elther button PROGR + (upwards) or PROGR − (downwards) to select the required programme position.

4 Press both the ↑ button and the −/+ + or − button repeatedly until the desired TV station is found.

5 Repeat steps 3 and 4 for all other channels.

6 Press once more both the ↑ button and the ⇩ (preset) button in order to return to the TV mode and to store the channels.

Skipping of programme positions

Using both the button C and the ↑ button you have the possibility to skip unused programme positions (e.g. without a stored station) when pressing the PROGR +/− buttons.

1 Press both the ↑ button and the ⇩ (preset) button to select the preset mode.

2 Select the programme position to be skipped by pressing the + or − PROGR button.

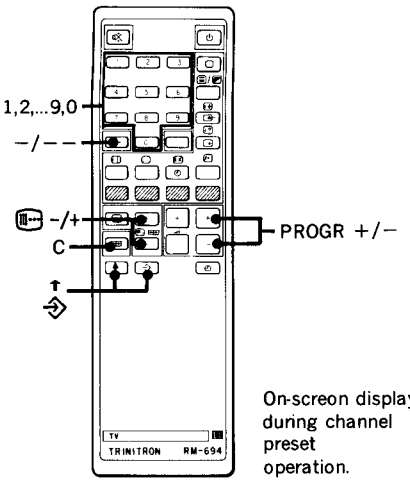
3 Press the C button.

4 Prees both the ⇩ (preset) button and the ↑ button to return to the TV mode.

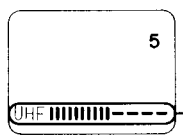
Manual Fine Tuning

If the reception of a channel is not satisfactory you have the possibility to deactivate the Automatic Fine Tuning which usually tunes in the best possible picture during presetting.

Press both the ↑ button and the +/− + or − button to fine ture the channel. By pressing the respective programme number the automatic Fine Tuning will be restored.

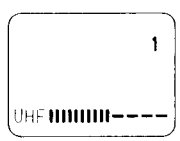


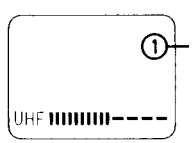
On-screon display during channel preset operation.



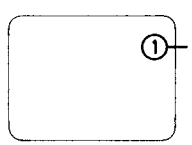
Programme position flashes.

Indicates the approximate location in the band of the channel being tuned in.





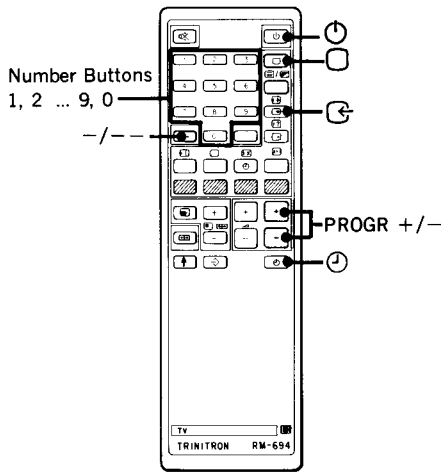
Programme number stops flashing.



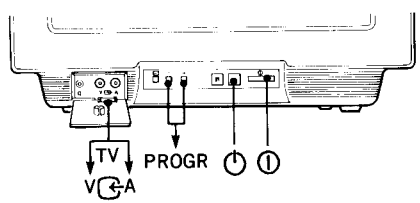
On-screen display after presetting.

1-3. DAILY USE OF THE TV

Your TV set is supposed to be operated with the Remote Commander, for the basic functions however it is also possible to use the buttons on the set itself.



- **Switching the set on**
  Press the power switch on the set to switch the TV on. if the set is switched on. the green indicator on the set lights up, if it is in standby mode the red indicator lights up (see also 'Standby mode').
- **Switching the set off**
  Press the power switch on the set to switch the TV off.
- **Selection of programmes**
  Press the respective number button 1,2, − − − 9 on the remote commander.
  In the case of two digit numbers, first press button −/− − and then the two respective number buttons.
  With the PROGR +/− buttons you can scan the programme positions (+ upwards, − downwards).
  On the Set
  Press the − button for lower programme positions and the + button for higher ones.
- **Standby mode**
  There are two possibilitles to put the set into standby mode.



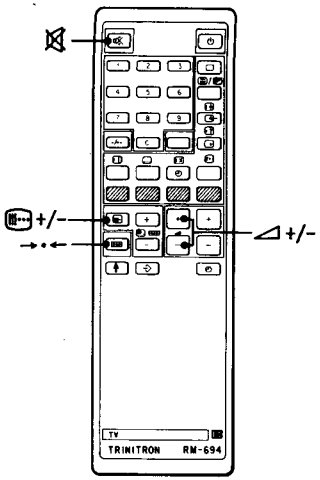
1. **Directly**
   Press the button ⏻ on the remote commander.
   The red indicator ⏻ on the set lights up.
   Note :
   Use the standby button only for shift breaks. if the set will not be used for a longer time span, use the power switch ⏻ to switch the set off.
2. **By using the sleep timer**
   Press the ◴ button repeatedly until the required time period is displayed on the screen (30, 60, 90 or 0 for cancelling of the operation).
   In this way you can select the time perlod after which the set switches itself automaticaily into standby mode.

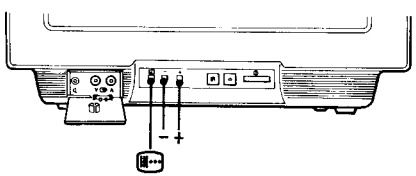
Switching the set on out of standby mode

Press the ▢ button or one of the number buttons on the remote commander.

- **On-screen display**
  Press the ▢ button to display the programme number on the screen and press the button once more to make it disappear.
- **Selecting the signal of the connected device**
  Press the ▢ button to receive the signal of the device (e.g. a video recorder) connected at the V ▢ A connectors or the 21 -pin connector (rcar of the set).
  Press the ▢ button to return to the TV mode.

1-4. PICTURE AND SOUND ADJUSTMENTS





- **Volume**
  Press the button ◿+ to increase the volume and the button ◿− to decrease it.

  On the set
  Press the button until ◿ is displayed on the screen and adjust the volume with the − or + button.

- **Modification of the picture presettings**
  Press the button on the commander to select either contrast, colour intensity, or brightness (the respective indication is displayed on the screen). Adjust the settings by pressing the + or − button.

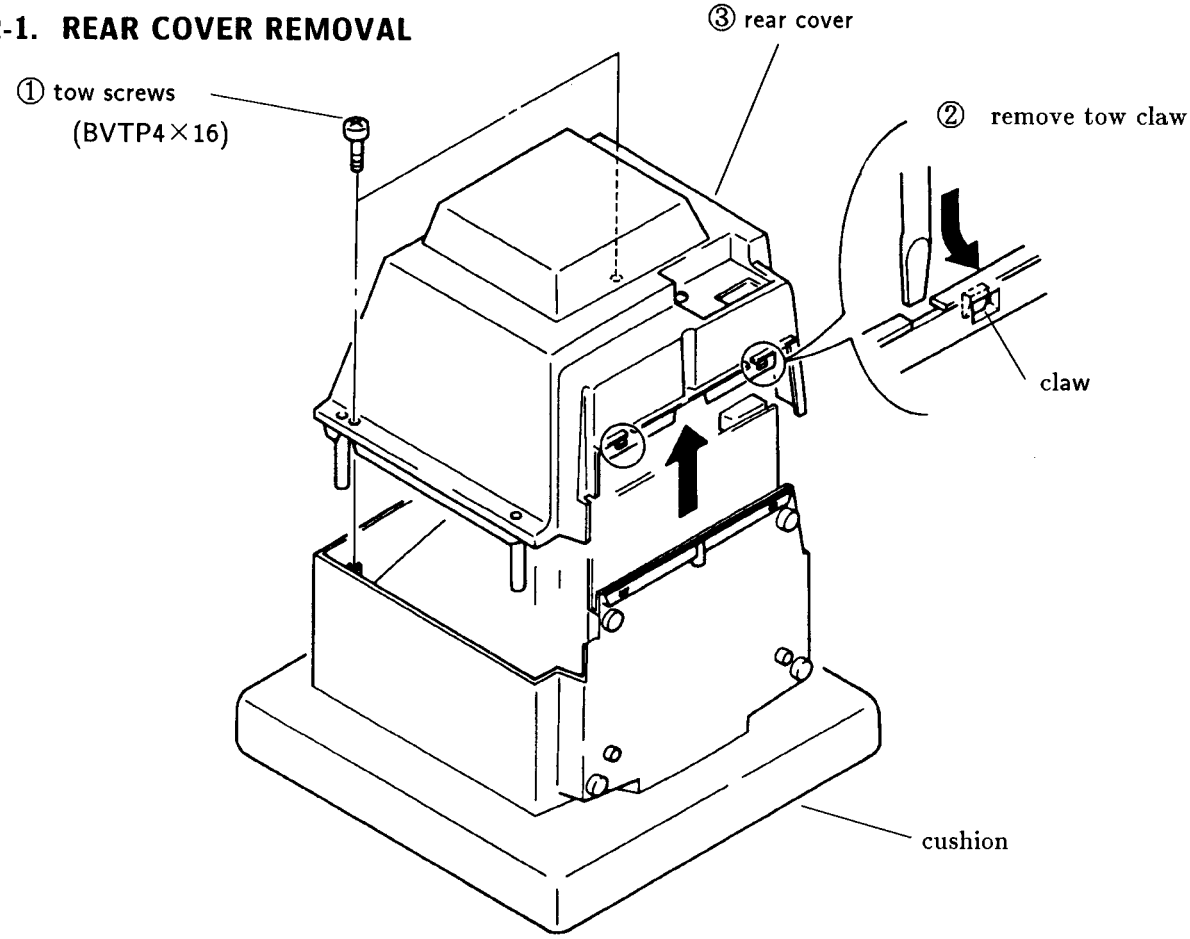
  To return to factory-set leveis
  Press the reset button →•← to return to the preset picture leves.

  On the set
  Press the button in order to select the requested item (contrast, colour Intensity, brightness, and adjust with the + or − button.

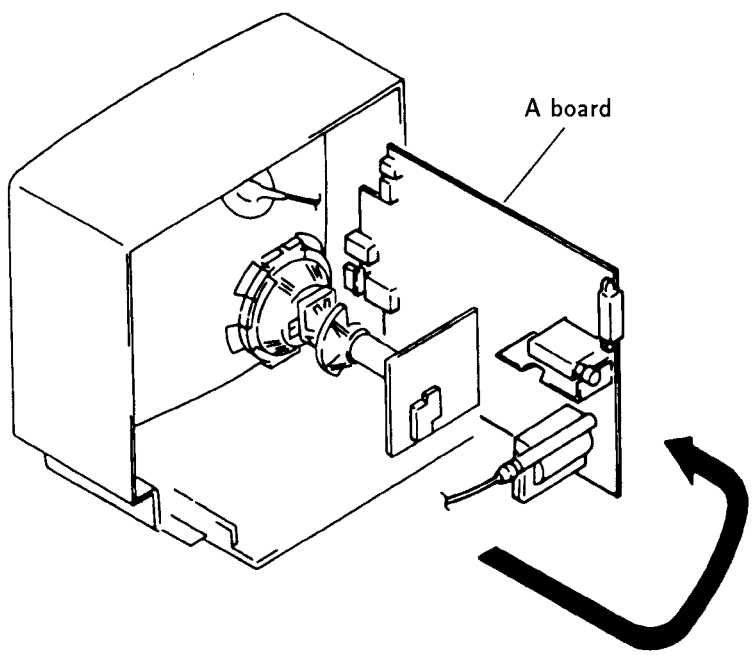
- **Muting the sound**
  Press the button to switch off the sound. Press the button again to restore the sound.

SECTION 2
DISASSEMBLY

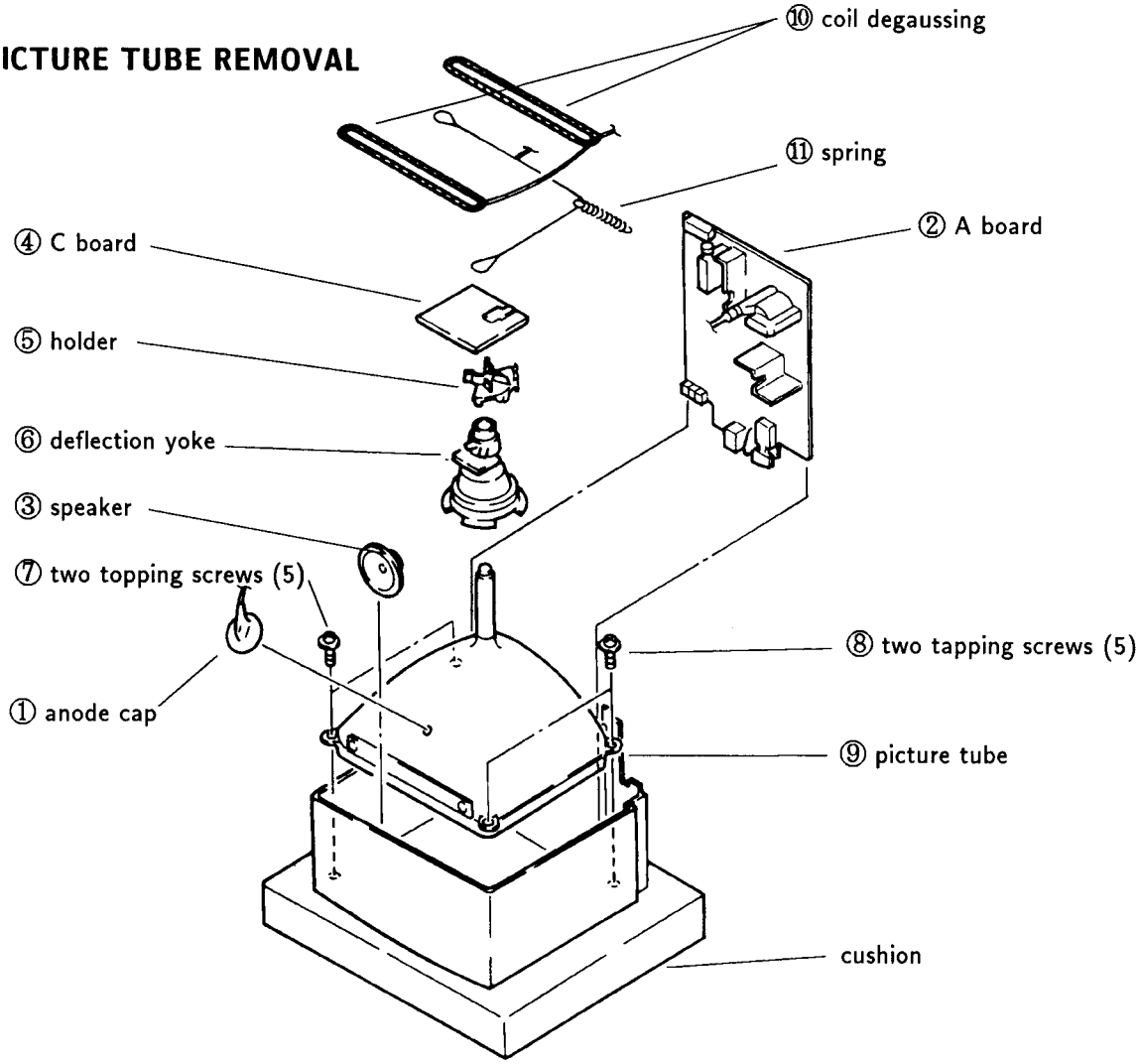
2-1. REAR COVER REMOVAL



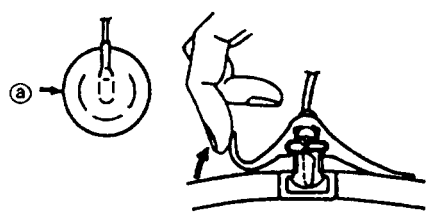
2-2. SERVICE POSITION



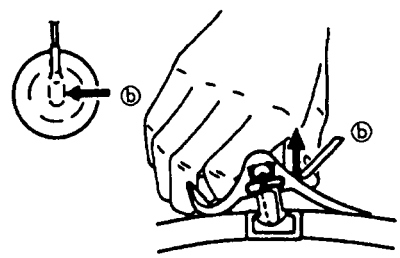
2-3. PICTURE TUBE REMOVAL



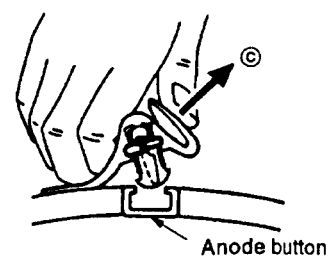
· REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



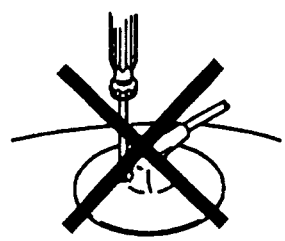
③ When one side of the rubber cap is separated from the anode button, the snode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

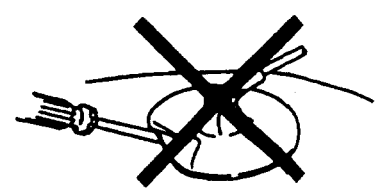
· HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SET-UP ADJUSTMENTS

● The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

● These adjustments should be performed with rated power supply voltage unless otherwise noted.

The contros and switch below should be set as follows unless otherwise noted :

◑ CONTRASTcontrol ..... 80%(or Normal by commander)

☼ BRIGHTNESS control 50%

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G 2) and White Balance

Note: Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

Preparation:

● Set the side of the unit with the PICTUE TUBE so that it faces east or west in orber to reduce the influene of external magnetic force.

● Turn the power switch for the unit ON and erase the magnetic force using a degausser..

3-1. BEAM LANDING

Demagnetize with a degausser

1. Input a raster signal with the pattern generator.
   CONTRASST
   BRIGHTNESS } normal
2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides evenly. (Fig.3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig.3-1)
5. Switch over the raster signal to blue and blue and confirm the condition.
6. When the position of the deflection yoke is determined,tighten it with a deflection yoke mounting screw.
7. When landing at the corner is not right, adjust by using the disk magnets. (Fig.3-4)

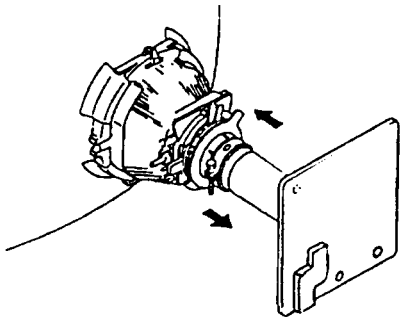


Fig.3-1

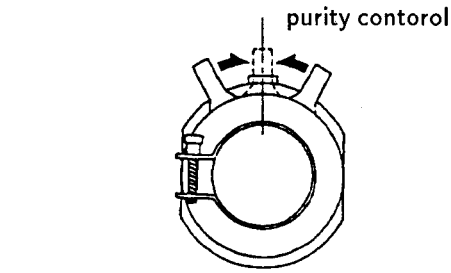


Fig.3-2

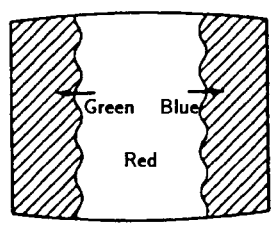


Fig.3-3

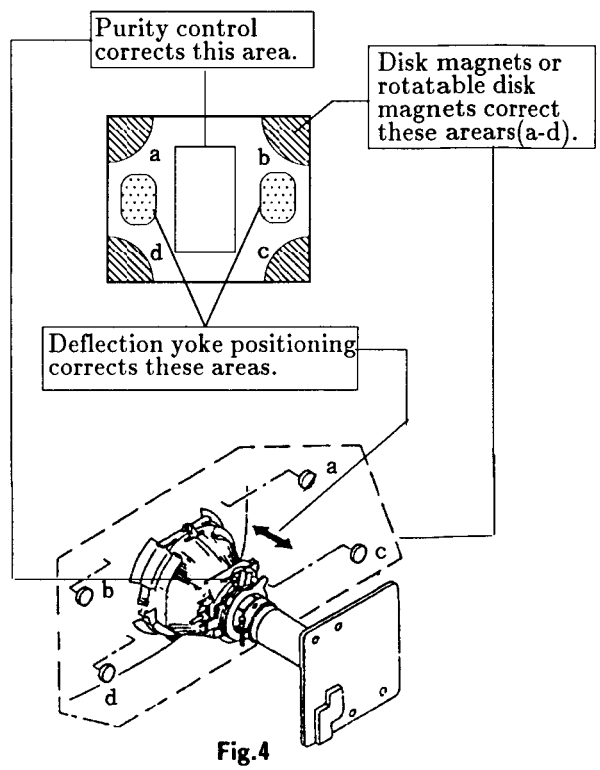


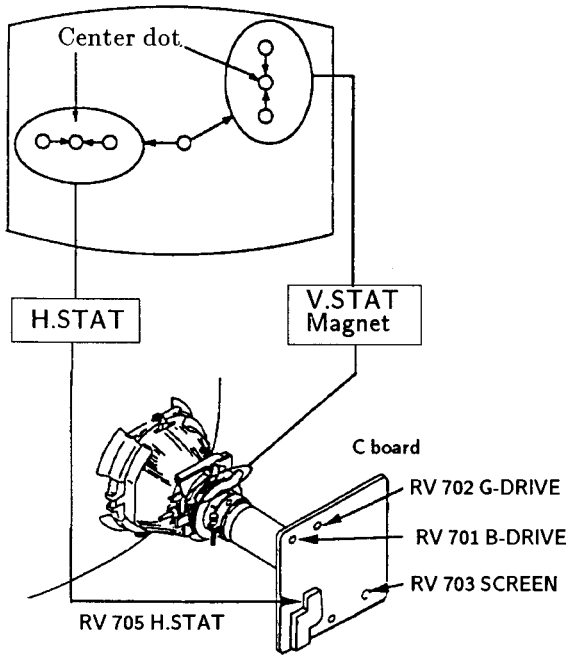
Fig.4

3-2. CONVERGENCE

Preparation:

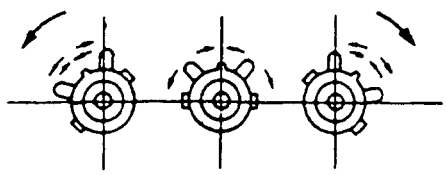
- Before startin,perform FOCUS, H.SIZE, and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

(1) Horizontal and Vertical Static Convergence

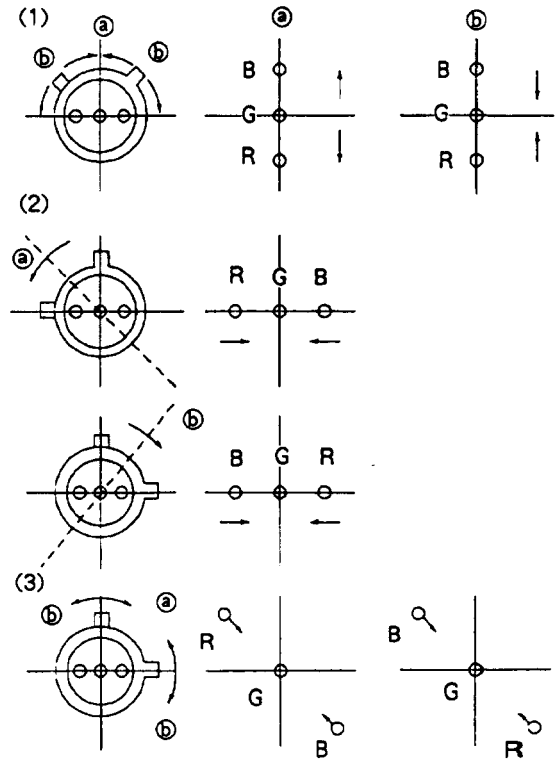


1. Adjust H.STAT VR to converge red, green and blue dots the in center of the screen.(Horizontal movement)
2. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
3. If the red, green and blue dots do not converge on the center of screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)

- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



4.When the V.STAT magnet is moved in the direction of arrow ⓐ and ⓑ, red, green and blue dots move as shown below.

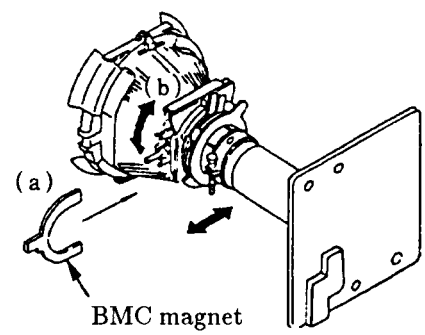


If the red and blue dot do not converge with green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H.static convergence.

Rotate BMC magnet (b) to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.

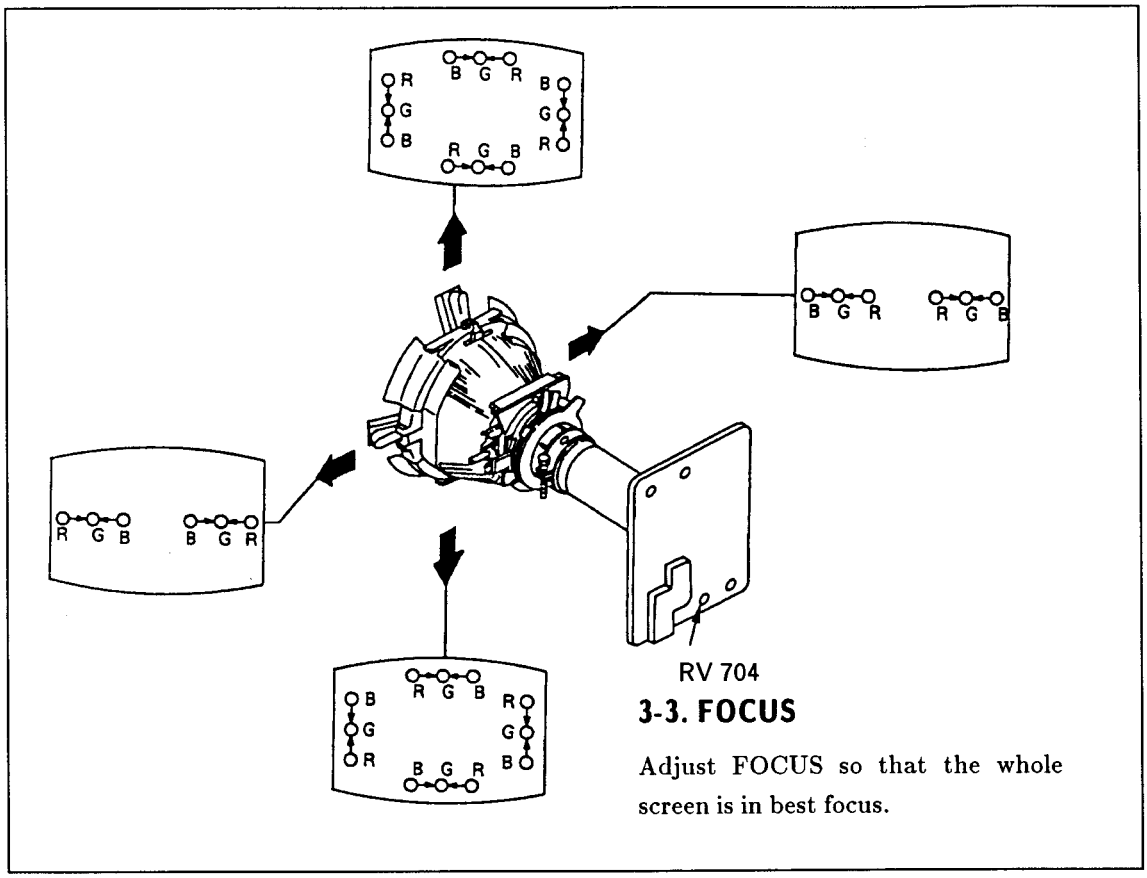


(2)Dynamic Convergence Adjustment

Preparation:

● Before starting perform Horizontal and Vertical static convergence Adjustment.

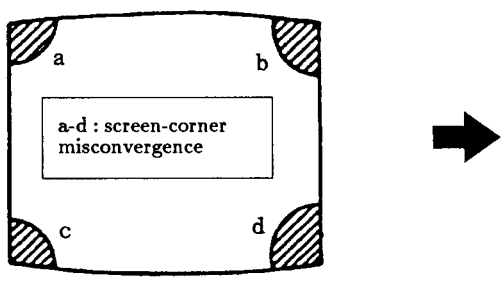
1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

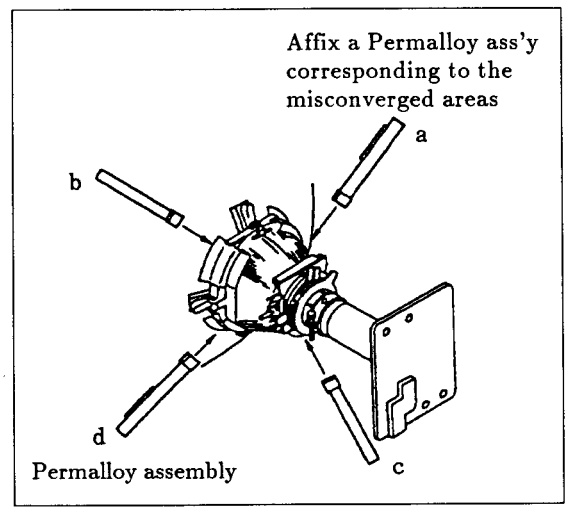


3-3. FOCUS

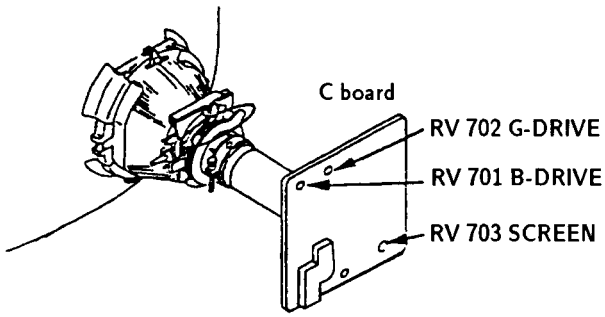
Adjust FOCUS so that the whole screen is in best focus.

(3) Screen-corner Convergence





3-4. SCREEN (G 2) and WHITE BALANCE



Screen (G 2) Setting

1. Input dot signal from the pattern generator.
2. Set the picture BRIGHTNESS control to minimum level.
3. Apply 140 V DC to the cathodes of R,G and B from an external power source.
4. White watching the picture, adjust the G 2 volume (RV 703) immediately before fly-back line disappears.

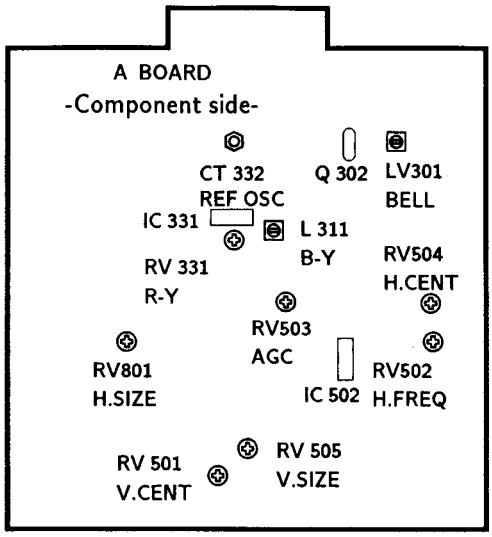
White Balance Adjustment

1. Input all-white signal from the pattern generator.
2. Adjust the BRIGHTNESS and COLOR controls to the standard level.
3. Adjust the following using RV 701 (B DRIVE) and RV 702 (G DRIVE)

In the following adjustments, the CONTRAST COLOR and BRIGHTNESS controls are set to normal unless otherwise specified.

SECTION 4
CIRCUIT ADJUSTMENTS

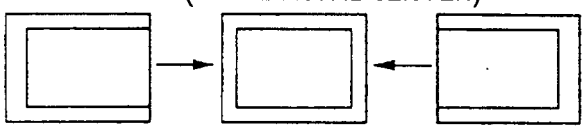
4-1. A BORAD ADJUSTMENTS



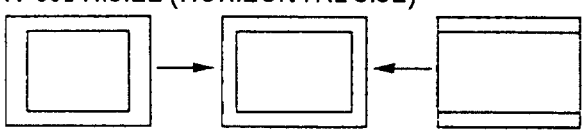
TU AGC Adjustment (RV 503)

1. Tune in air signal.
2. Adjust AGC VR (RV 503) so that snow-noise and cross-modulation just disappear from the picture.

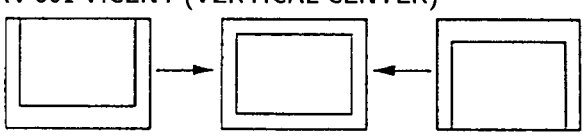
RV 504 H.CENT (HORIZONTAL CENTER)



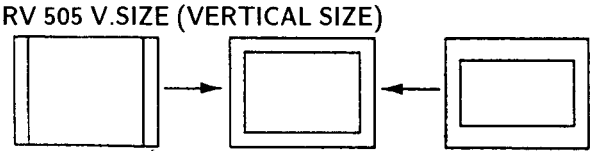
RV 801 H.SIZE (HORIZONTAL SISE)



RV 501 V.CENT (VERTICAL CENTER)

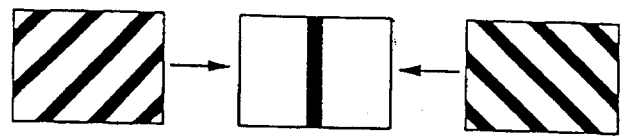


RV 505 V.SIZE (VERTICAL SIZE)



H.FREQ Adjustment (RV 502)

1. Input a PAL COLOR BAR signal, then connect an electrolytic capacitor (100 μ/16 V) between pin㉘ and GND of IC 502.
2. Adjust RV 502 (H.FREQ) to stop scrolling of the picture in the horizontal direction.
3. After adjustment, remove the electrolytic capacitor.

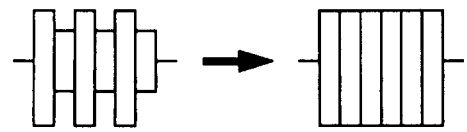


REF OSC 8.8 MHz Adjustment (CT 332)

1. Input a PAL COLOR BAR pattern.
2. Short circuit between pin⑰ of IC 331 and ground.
3. Adjust CT 332 to obtain color synchronization.
4. Remove the jumper wire from IC 331.

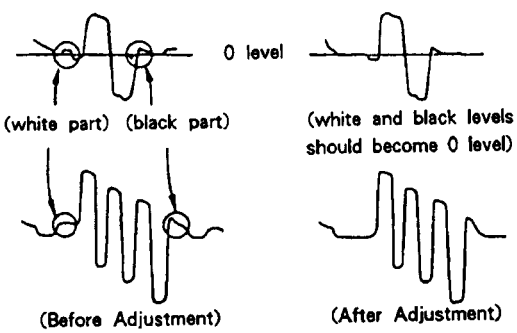
BELL FILTER Adjustment (LV-301)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to the Q 302 emitter.
3. Adjust LV 301 so that waveform becomes flat.



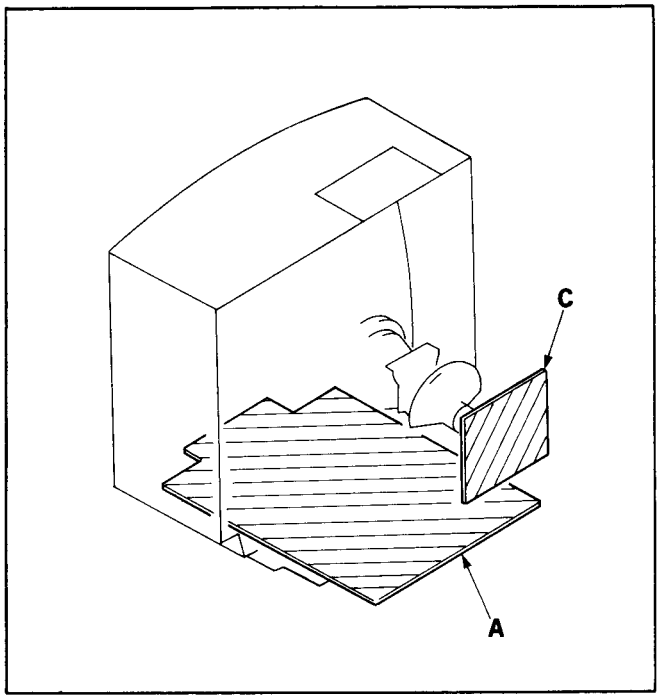
SECAM DISCRI Adjustment (RV 331 R-Y L 331 B-Y)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to pin ① of IC 301.
3. Adjust RV 331(R-Y) so that white and black parts of the waveform of pin ① becomes 0 lecel.
4. Connect an oscilloscope to pin ③ of IC 301.
4. Adjust L 331(B-Y) so that white and black parts of the waveform of pin ③ becomes 0 level.



SECTION 5
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: *	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note :

- All capacitors are in μF unless otherwise noted.
  pF : μμF 50WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm Rating electrical power : 1/4W

- Chip resistor is in 1/10W.
- All resistors are in ohms. kΩ = 1000Ω, MΩ = 1000k Ω
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B.unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- : B + line.
- : signal path.

KV-M1420D RM-694	KV-M1420D RM-694

5-2. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

—A Board—

SYSTEM CONTROL AUDIO/VIDEO OUT H/V CUT TUNER MEMORY CHROMA **A** **A**

NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

IC

IC001	Đ-12
IC002	F-11
IC003	F-13
IC004	F-12
IC005	C-11
IC102	C-6
IC201	G-11
IC301	E-7
IC302	B-9
IC331	Đ-8
IC501	E-3
IC502	Đ-5
IC601	I-6
IC801	G-5
IC802	E-5

TRANSISTOR

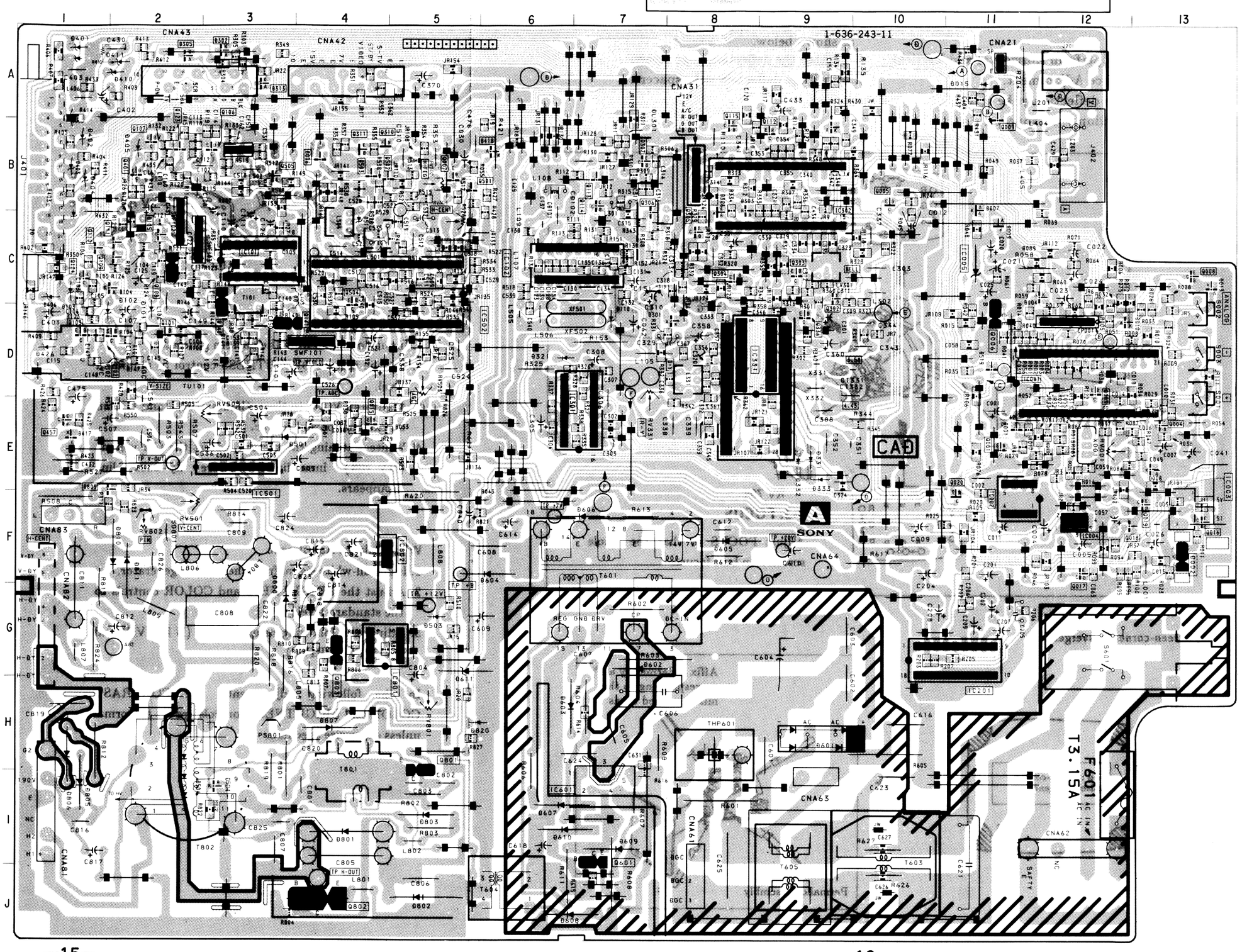
Q001	E-11
Q003	Đ-12
Q004	E-13
Q005	B-10
Q006	Đ-11
Q007	B-5
Q008	C-13
Q015	E-4
Q016	F-13
Q017	F-12
Q019	F-13
Q020	F-11
Q101	Đ-2
Q102	Đ-2
Q103	Đ-1
Q104	C-1
Q106	B-3
Q107	B-2
Q112	B-9
Q114	B-7
Q115	B-8
Q141	Đ-4
Q302	C-9
Q303	C-9
Q304	C-8
Q305	C-8
Q307	B-7
Q310	B-4
Q311	B-4
Q401	B-2
Q457	E-1
Q504	C-3
Q505	B-3
Q601	I-7
Q801	H-5
Q802	J-4
Q803	H-3

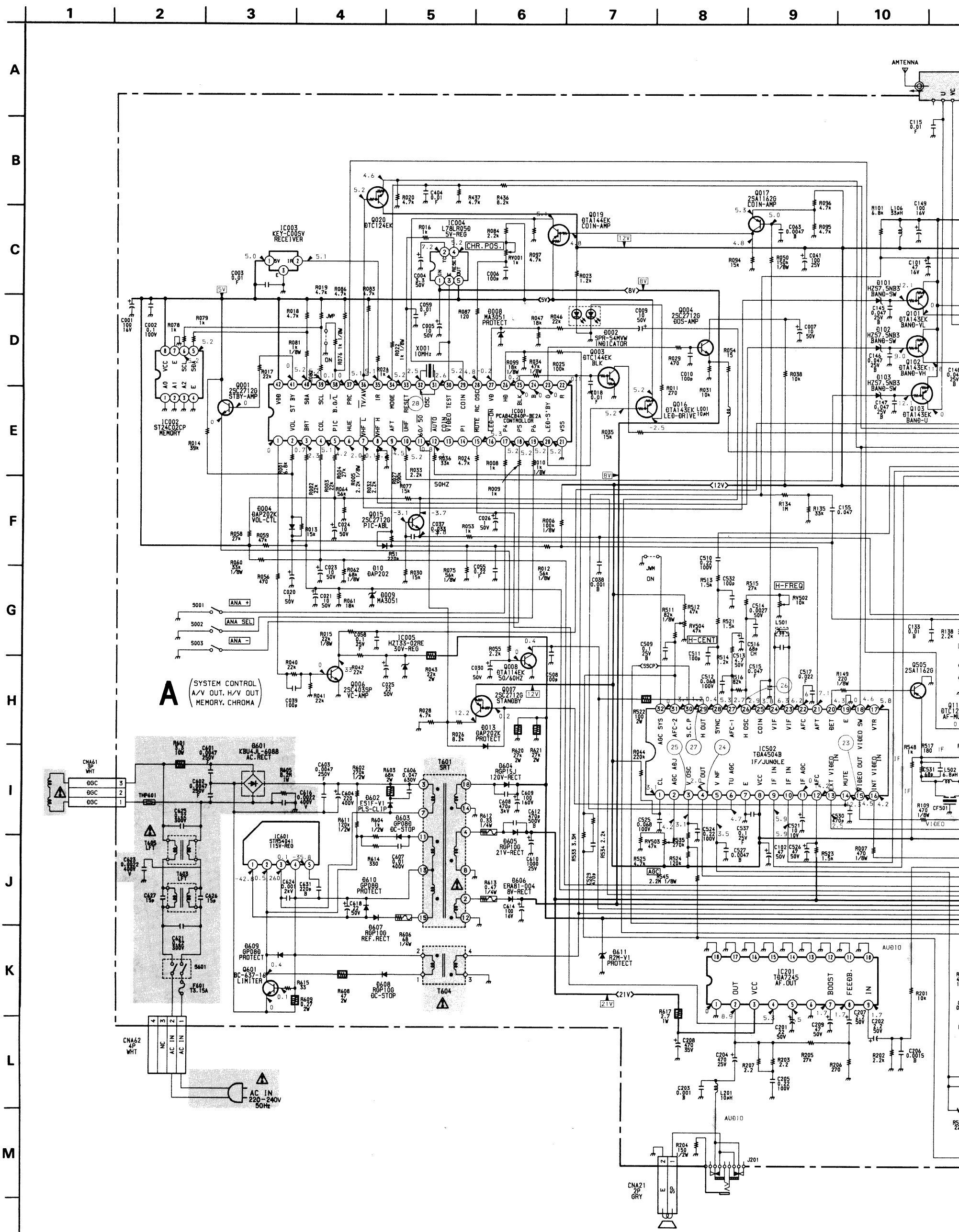
ĐIOĐE

Đ002	F-13
Đ004	C-12
Đ007	B-11
Đ008	E-13
Đ009	C-11
Đ010	Đ-12
Đ013	C-13
Đ101	Đ-2
Đ102	Đ-1
Đ103	C-1
Đ104	C-2
Đ110	Đ-7
Đ301	Đ-7
Đ302	A-3
Đ303	B-8
Đ305	A-2
Đ306	B-8
Đ313	A-3
Đ321	Đ-6
Đ324	A-9
Đ331	E-9
Đ333	E-9
Đ401	A-1
Đ402	B-1
Đ403	B-1
Đ404	B-1
Đ405	B-2
Đ406	Đ-1
Đ410	A-2
Đ411	A-2
Đ417	E-1
Đ418	B-6
Đ426	Đ-1
Đ501	E-3
Đ503	G-5
Đ504	I-3
Đ601	H-9
Đ602	G-7
Đ603	H-6
Đ604	F-6
Đ605	F-8
Đ606	F-7
Đ607	I-6
Đ608	J-6
Đ609	I-7
Đ610	I-6
Đ611	G-5
Đ801	I-4
Đ802	J-5
Đ803	I-5
Đ805	I-1
Đ806	I-1
Đ807	H-4
Đ808	G-3
Đ810	F-2
Đ811	F-2
Đ820	H-5

VARIABLE RESISTOR

RV001	E-12
RV501	F-2
RV502	B-5
RV503	Đ-5
RV504	C-5
RV505	E-3
RV801	H-5

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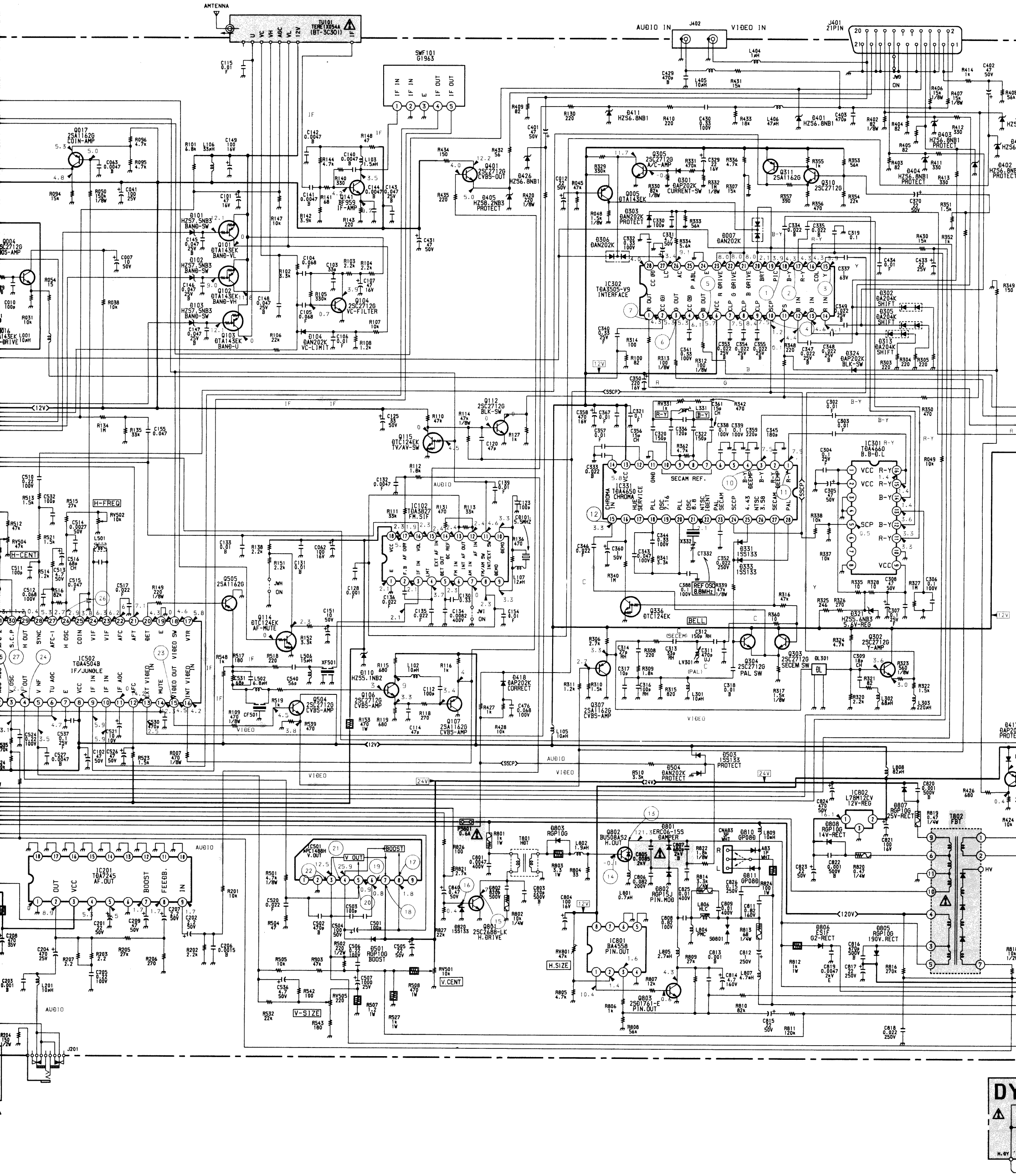
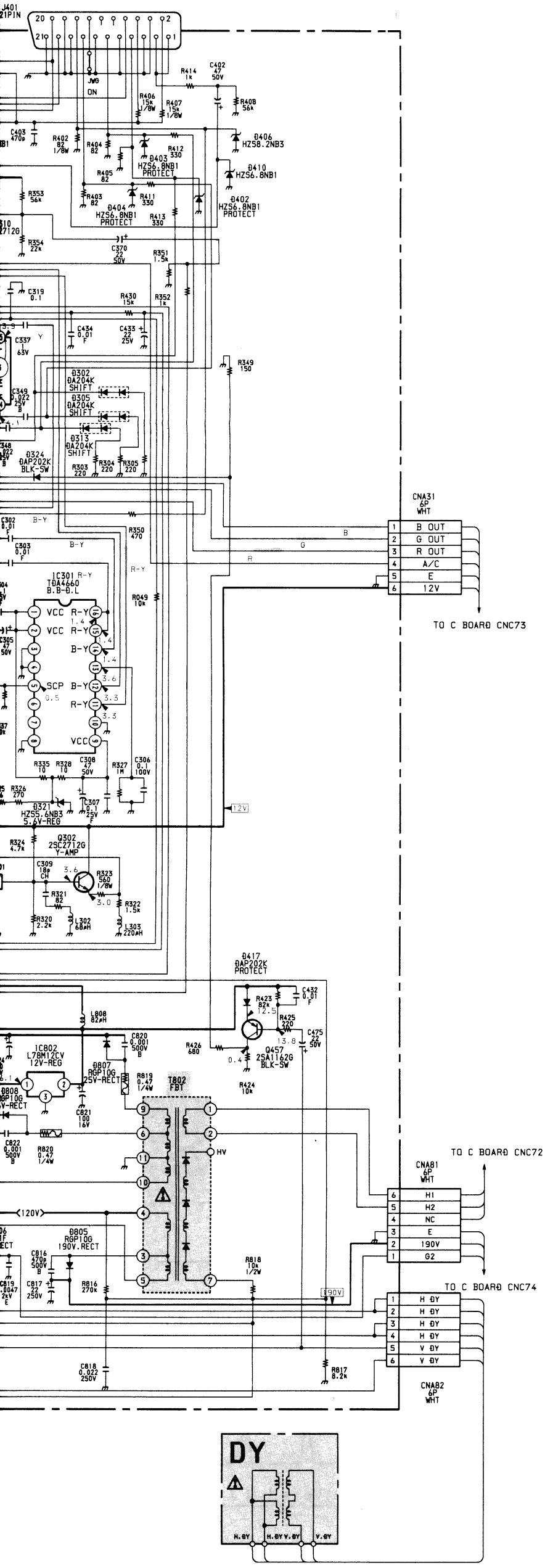
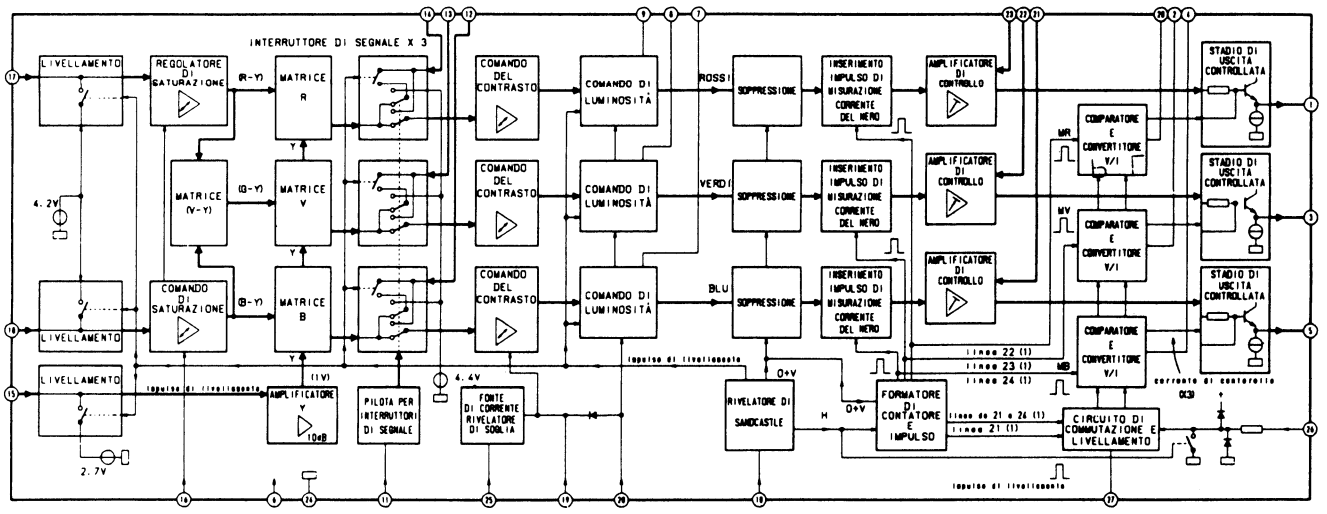
K
L
M
N
AMTENNA
IC003
KEY-C005V
RECEIVER
IC004
L78L05D
5V-REG
CHR.POS.
Q017
2SA1162G
COIN-AMP
Q019
DTA144EK
COIN-AMP
Q020
DTC124EK
Q001
2SC2712G
STBY-AMP
IC002
ST24C02CP
MEMORY
IC001
PCA84C840P-BE2A
CONTROLLER
Q004
2SC2712G
DOS-AMP
Q002
SPR-54MVW
INDICATOR
Q003
DTC144EK
BLK
Q016
DTA143EK
LED-DRIVE
Q008
MA3051
PROTECT
X001
10MHz
Q004
DAP202K
VOL-CTL
Q015
2SC2712G
PIC-ABL
Q010
DAP202
Q009
MA3051
Q006
2SC403SP
VC-AMP
Q007
2SC2712G
STANDBY
Q013
DAP202K
PROTECT
IC005
HZT33-02RE
30V-REG
Q101
HZS7.5NB3
BAND-SW
Q102
HZS7.5NB3
BAND-SW
Q103
HZS7.5NB3
BAND-SW
Q101
DTA143EK
BAND-VL
Q102
DTA143EK
BAND-VH
Q103
DTA143EK
BAND-U
IC502
TDA4504B
IF/JUNGLE
Q505
2SA1162G
Q11
DTC12
AF-MU
IC201
TDA7245
AF.OUT
Q601
KBU4JL-6088
AC.RECT
Q602
ES1F-V1
PLS-CLIP
Q603
GP080
DC-STOP
Q604
RGP15J
120V-RECT
Q605
RGP10G
21V-RECT
Q606
ERA81-004
8V-RECT
Q607
RGP10G
REF.RECT
Q608
RGP10G
DC-STOP
Q609
GP080
PROTECT
Q610
GP080
PROTECT
Q611
R2M-V1
PROTECT
IC601
STR54041
115V-REG
Q601
BC-637-16
LIMITER
T601
SRT
T602
T603
T604
T605
S601
F601
T3.15A
CNA61
3P
WHT
CNA62
4P
WHT
CNA21
2P
GRY
AC IN
220-240V
50Hz
A
SYSTEM CONTROL
A/V OUT, H/V OUT
MEMORY, CHROMA
H-FREQ
H-CENT
SSCP
AGC
ANA +
ANA SEL
ANA -
50HZ
60/50
ON
JWP
5V
8V
12V
21V
TUNER
VIDEO
AUDIO

8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19





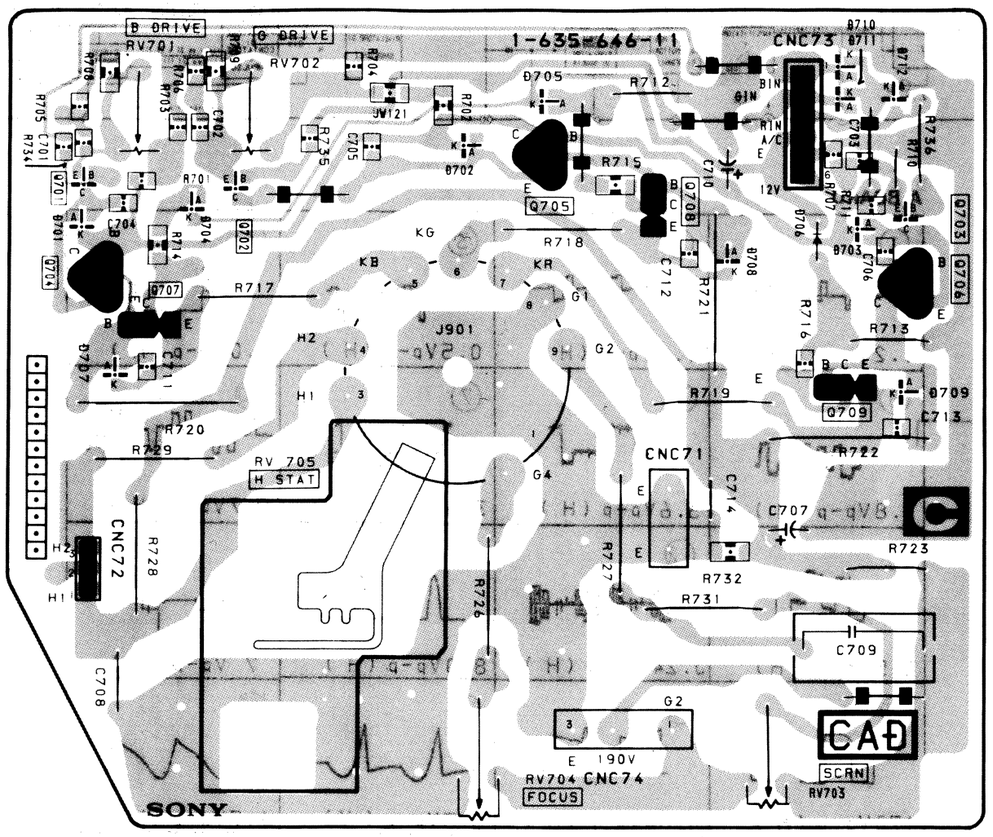
A BOARD IC302 TDA3505-V9

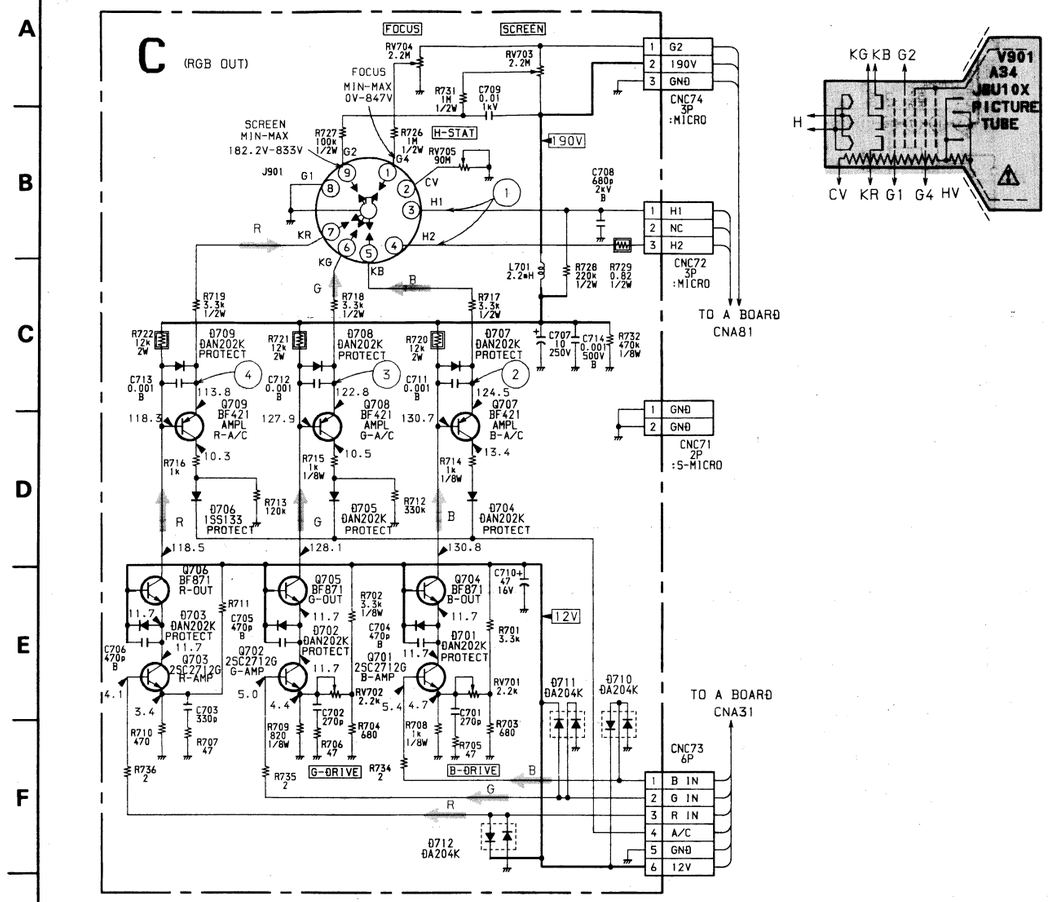


A BOARD

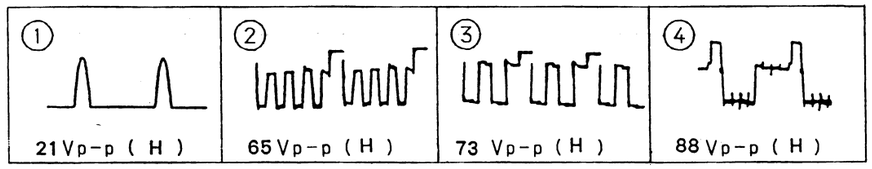
① 1.2Vp-p (H)	② 1.0Vp-p (H)	③ 0.5Vp-p (H)	④ 9.0Vp-p (H)
⑤ 3.8Vp-p (H)	⑥ 3.6Vp-p (H)	⑦ 3.4Vp-p (H)	⑩ 0.7Vp-p (H)
⑪ 0.5Vp-p (H)	⑫ 0.24 Vp-p (H)	⑬ 800Vp-p (H)	⑭ 7 Vp-p (H)
⑮ 170Vp-p (H)	⑯ 0.65Vp-p (H)	⑰ 3.3Vp-p (V)	⑱ 1.7Vp-p (V)
⑲ 2.6Vp-p (V)	⑳ 1.5Vp-p (V)	㉑ 27 Vp-p (V)	㉒ 48 Vp-p (V)
㉓ 2.2Vp-p (H)	㉔ 1.8Vp-p (V)	㉕ 2 Vp-p (V)	
㉖ 2 Vp-p (H)	㉗ 0.65Vp-p (H)	㉘ 2.4 Vp-p (H)	

—C Board—



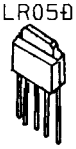


C BOARD



5-3. SEMICONDUCTORS

L78LR05Đ-MA



TĐA3827
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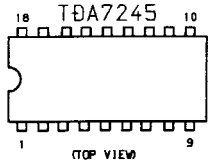
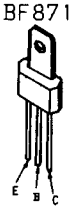


BF871



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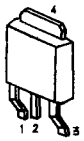

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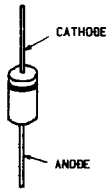

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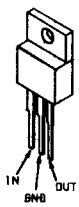

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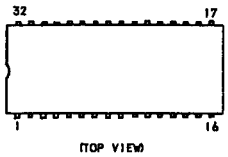
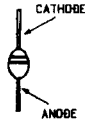
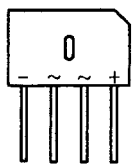


BF959

U05G



KBU4JL-6088



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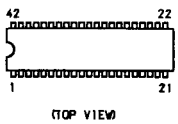

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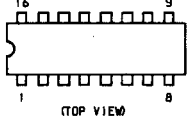

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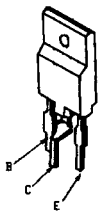

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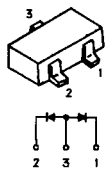

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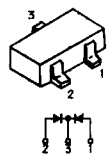
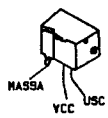


KEY-C00SV



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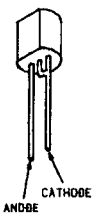

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ĐTA143EK
ĐTA144EK
ĐTC124EK
ĐTC144EK
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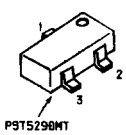
2SC2712G



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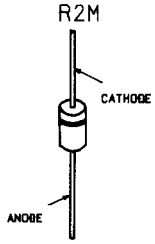
RU-3AM
R2M



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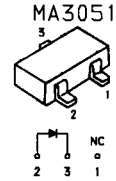

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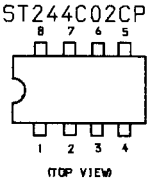

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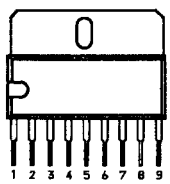

ERA83-006
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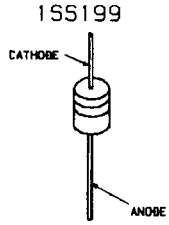
HZS5.6N-B3
HZS7.5N-B3
HZS8.2N-B3
RĐ6.8ES-B1
1SS199



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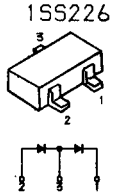

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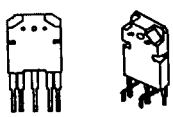

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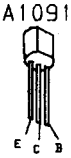

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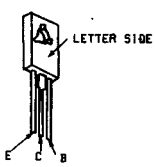
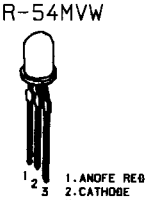
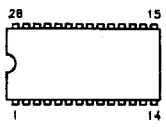


SPR-54MVW



TĐA3505-V9
TĐA4650



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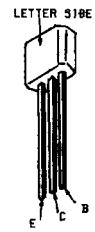


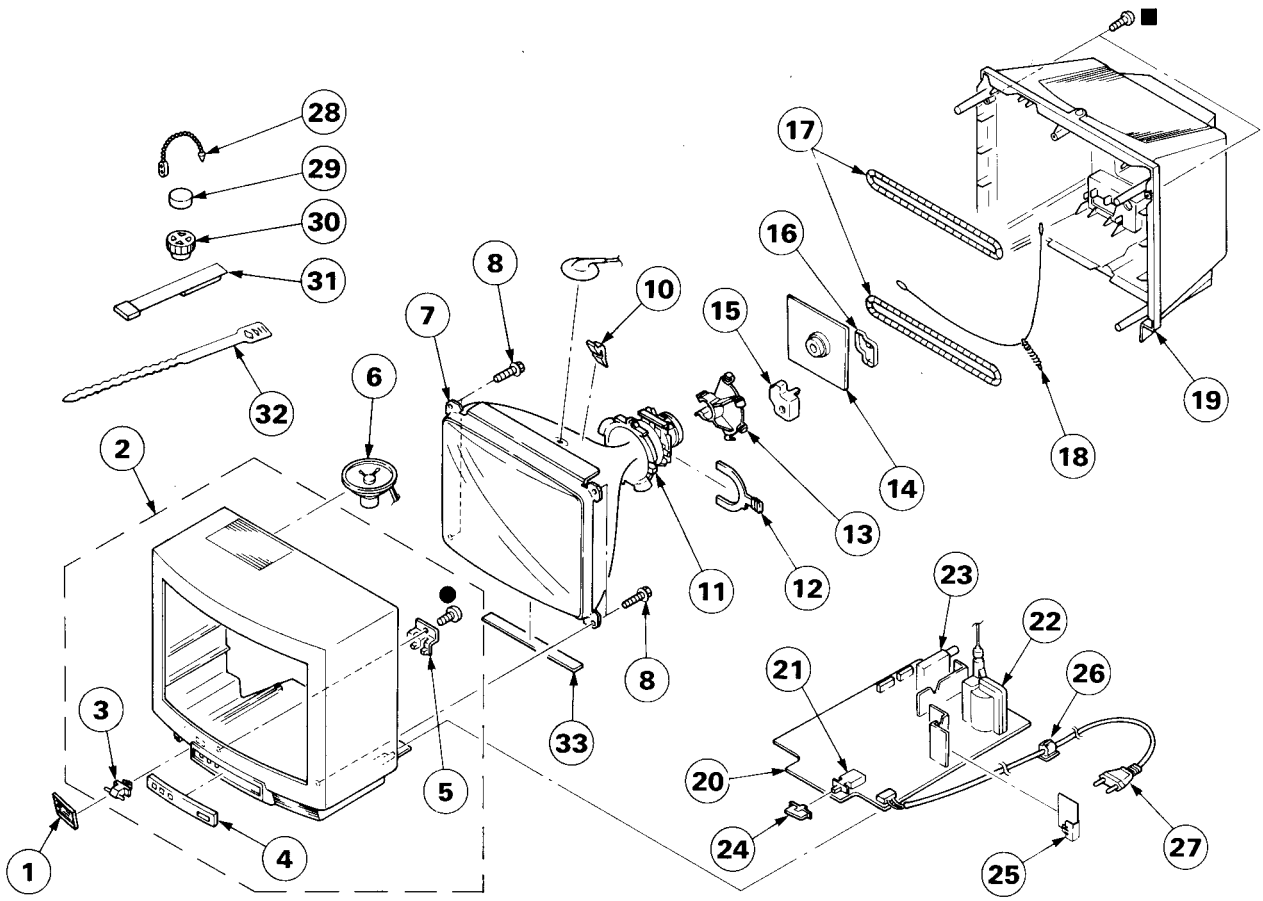
SECTION 6
EXPLODED VIEW

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

6-1. REAR COVER

●: BVTP3×12 7-685-648-79
■: BVTP4×16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-200-403-11	LID, CONTROL (WHITE)	
	4-200-403-21	LID, CONTROL (BLACK)	
2	X-4200-049-2	CABINET ASSY(WITH BEZEL ASSY)(WHITE)	3-5
	X-4200-049-3	CABINET ASSY(WITH BEZEL ASSY)(BLACK)	3-5
3	3-703-035-11	SHAFT, LID	
4	4-200-406-01	WINDOW, ORNAMENTAL	
5	4-200-405-01	BUTTON, MULTI	
6	1-544-374-11	SPEAKER	
7	⚠.8-735-555-75	PICTURE TUBE (A34JBU10X)	
8	4-307-249-00	SCREW (5), TAPPING	
10	3-704-495-01	SPACER, DY	
11	⚠1-451-249-31	DEFLECTION YOKE (Y14NDA2)	
12	1-452-277-00	MAGNET, BMC	
13	*4-385-422-01	HOLDER, LEAD	
14	*A-1638-008-A	C BOARD, COMPLETE	
15	*4-374-912-01	COVER (MAIN), CV VOL	
16	*4-374-913-01	COVER (REAR LID), CV VOL	
17	⚠.1-426-145-21	COIL, DEGAUSSING	
18	4-369-318-00	SPRING, TENSION	
19	4-200-410-01	COVER, REAR (BLACK)	
	4-200-410-11	COVER, REAR (WHITE)	
20	*A-1632-016-A	A BOARD, COMPLETE	
21	⚠.1-571-433-11	SWITCH, PUSH (AC POWER)	
22	⚠.1-439-432-11	TRANSFORMER ASSY, FLYBACK (UX-1620)	
23	⚠.1-465-541-11	TUNER TERE1X054A (BT-3C 301)	
24	4-200-404-01	BUTTON, POWER	
25	*4-200-400-01	PLATE, INSULATION	
26	⚠.4-389-201-02	HOLDER, AC CORD	
27	⚠.1-575-487-11	CORD,POWER (WITH NOISE FILTER)	
28	4-308-870-00	CLIP, LEAD WIRE	
29	1-452-032-00	MAGNET, DISK; 10MM ϕ	
30	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
31	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
32	3-701-007-00	BAND, BINDING	
33	4-389-350-01	CUSHION, PICTURE TUBE	

SECTION 7
ELECTRICAL PARTS LIST

A

NOTE:
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-1632-016-A	A BOARD, COMPLETE **********			
	4-200-399-01	SPACER, IC			
	4-201-057-01	COVER, FUSE			
	*4-341-751-01	EYELET			
	*4-341-752-01	EYELET			
		<CAPACITOR>			
C001	1-126-101-11	ELECT 100MF	20%	16V	
C002	1-106-220-00	MYLAR 0.1MF	10%	100V	
C003	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C004	1-123-382-00	ELECT 3.3MF	20%	50V	
C005	1-123-875-11	ELECT 10MF	20%	50V	
C006	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C007	1-123-875-11	ELECT 10MF	20%	50V	
C009	1-123-875-11	ELECT 10MF	20%	50V	
C010	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C012	1-126-233-11	ELECT 22MF	20%	50V	
C018	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C020	1-124-791-11	ELECT 1MF	20%	50V	
C021	1-123-875-11	ELECT 10MF	20%	50V	
C023	1-123-875-11	ELECT 10MF	20%	50V	
C024	1-123-875-11	ELECT 10MF	20%	50V	
C025	1-126-233-11	ELECT 22MF	20%	50V	
C026	1-124-791-11	ELECT 1MF	20%	50V	
C030	1-124-791-11	ELECT 1MF	20%	50V	
C037	1-163-034-00	CERAMIC CHIP 0.033MF		50V	
C038	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C039	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C041	1-124-478-11	ELECT 100MF	20%	25V	
C055	1-163-081-00	CERAMIC CHIP 0.22MF		25V	
C058	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C059	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C062	1-126-101-11	ELECT 100MF	20%	16V	
C063	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	
C101	1-124-477-11	ELECT 47MF	20%	16V	
C102	1-124-910-11	ELECT 47MF	20%	50V	
C103	1-163-105-00	CERAMIC CHIP 33PF	5%	50V	
C104	1-163-036-00	CERAMIC CHIP 0.068MF		50V	
C105	1-163-036-00	CERAMIC CHIP 0.068MF		50V	
C106	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C107	1-124-477-11	ELECT 47MF	20%	16V	
C112	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C114	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C115	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C120	1-163-173-00	CERAMIC CHIP 47PF	5%	50V	
C123	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C125	1-124-917-11	ELECT 33MF	20%	50V	
C128	1-163-009-11	CERAMIC CHIP 0.001MF		50V	
C130	1-136-171-00	FILM 0.33MF	5%	50V	
C131	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C132	1-136-017-00	CERAMIC CHIP 0.0047MF		50V	
C133	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C134	1-106-218-00	MYLAR 0.0082MF	10%	400V	
C135	1-163-033-00	CERAMIC CHIP 0.022MF		50V	
C136	1-163-033-00	CERAMIC CHIP 0.022MF		50V	
C138	1-216-295-00	METAL GLAZE 0	5%	1/10W	
C139	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C140	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	
C141	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	
C142	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	
C143	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	
C144	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	
C145	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	
C146	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	
C147	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	
C148	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	
C149	1-126-101-11	ELECT 100MF	20%	16V	
C151	1-123-875-11	ELECT 10MF	20%	50V	
C154	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C155	1-163-075-00	CERAMIC CHIP 0.047MF		50V	
C201	1-126-233-11	ELECT 22MF	20%	50V	
C202	1-124-925-11	ELECT 2.2MF	20%	50V	
C203	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C204	1-124-480-11	ELECT 470MF	20%	25V	
C205	1-106-228-00	MYLAR 0.22MF	10%	100V	
C206	1-163-011-11	CERAMIC CHIP 0.0015MF	10%	50V	
C207	1-124-925-11	ELECT 2.2MF	20%	50V	
C208	1-124-900-95	ELECT 470MF	20%	35V	
C209	1-124-910-11	ELECT 47MF	20%	50V	
C302	1-163-059-00	CERAMIC CHIP 0.01MF		50V	
C303	1-163-059-00	CERAMIC CHIP 0.01MF		50V	
C304	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C305	1-124-910-11	ELECT 47MF	20%	50V	
C306	1-106-220-00	MYLAR 0.1MF	10%	100V	
C307	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C308	1-124-910-11	ELECT 47MF	20%	50V	
C309	1-163-099-00	CERAMIC CHIP 18PF	5%	50V	
C311	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	
C312	1-163-121-00	CERAMIC CHIP 150PF	5%	50V	
C313	1-163-105-00	CERAMIC CHIP 33PF	5%	50V	
C314	1-163-103-00	CERAMIC CHIP 27PF	5%	50V	
C316	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C317	1-163-093-00	CERAMIC CHIP 10PF	5%	50V	
C318	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C319	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C320	1-163-121-00	CERAMIC CHIP 150PF	5%	50V	
C321	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C322	1-163-121-00	CERAMIC CHIP 150PF	5%	50V	
C323	1-163-055-00	CERAMIC CHIP 0.0047MF	10%	50V	
C329	1-131-367-00	TANTALUM 22MF	10%	16V	
C330	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	

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The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C331	1-124-927-11	ELECT	4.7MF	20%	50V
C332	1-130-783-00	MYLAR	0.33MF	10%	100V
C333	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C334	1-163-063-00	CERAMIC CHIP	0.022MF	10%	50V
C335	1-163-063-00	CERAMIC CHIP	0.022MF	10%	50V
C336	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C337	1-130-834-00	MYLAR	1MF	10%	63V
C338	1-106-220-00	MYLAR	0.1MF	10%	100V
C339	1-106-220-00	MYLAR	0.1MF	10%	100V
C340	1-162-568-11	CERAMIC CHIP	0.33MF		25V
C341	1-130-783-00	MYLAR	0.33MF	10%	100V
C343	1-106-383-00	MYLAR	0.047MF	10%	100V
C344	1-130-783-00	MYLAR	0.33MF	10%	100V
C345	1-163-187-00	CERAMIC CHIP	180PF	5%	50V
C346	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C347	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C348	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C349	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C352	1-106-375-12	MYLAR	0.022MF	10%	250V
C353	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C354	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C355	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C356	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C357	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C358	1-124-556-11	ELECT	2200MF	20%	16V
C359	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C360	1-124-791-11	ELECT	1MF	20%	50V
C361	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C367	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C370	1-126-233-11	ELECT	22MF	20%	50V
C388	1-106-220-00	MYLAR	0.1MF	10%	100V
C401	1-124-910-11	ELECT	47MF	20%	50V
C402	1-124-910-11	ELECT	47MF	20%	50V
C403	1-102-824-00	CERAMIC	470PF	5%	50V
C404	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C429	1-163-197-00	CERAMIC CHIP	470PF	10%	50V
C430	1-130-783-00	MYLAR	0.33MF	10%	100V
C431	1-124-910-11	ELECT	47MF	20%	50V
C432	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C433	1-126-233-11	ELECT	22MF	20%	25V
C434	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C475	1-126-233-11	ELECT	22MF	20%	50V
C476	1-106-216-00	MYLAR	0.068MF	10%	100V
C499	1-162-318-11	CERAMIC	0.001MF	10%	500V
C501	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C502	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C503	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C504	1-124-122-11	ELECT	100MF	20%	50V
C505	1-126-233-11	ELECT	22MF	20%	50V
C506	1-106-228-00	MYLAR	0.22MF	10%	100V
C507	1-124-557-11	ELECT	1000MF	20%	25V
C508	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C509	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C510	1-106-228-00	MYLAR	0.22MF	10%	100V
C511	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C512	1-106-216-00	MYLAR	0.068MF	10%	100V
C513	1-124-927-11	ELECT	4.7MF	20%	50V
C514	1-130-023-91	FILM	0.0027MF	5%	50V
C515	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C516	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C517	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C520	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C521	1-131-377-00	TANTALUM	10MF	10%	10V
C524	1-106-228-00	MYLAR	0.22MF	10%	100V
C525	1-106-216-00	MYLAR	0.068MF	10%	100V
C526	1-124-910-11	ELECT	47MF	20%	50V
C527	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C529	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C530	1-163-197-00	CERAMIC CHIP	470PF	5%	50V
C531	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C532	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C536	1-124-927-11	ELECT	4.7MF	20%	50V
C537	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C540	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C601	⚠1-161-964-61	CERAMIC	0.0047MF		250V
C602	⚠1-161-964-61	CERAMIC	0.0047MF		250V
C603	1-162-599-12	CERAMIC	0.0047MF		250V
C604	1-125-318-00	ELECT(BLOCK)	220MF	20%	400V
C606	1-136-637-21	FILM	0.047MF	10%	630V
C607	1-106-367-00	MYLAR	0.01MF	10%	400V
C608	1-161-753-00	CERAMIC	470PF	10%	3KV
C609	1-124-347-00	ELECT	100MF	20%	160V
C610	1-124-557-11	ELECT	1000MF	20%	25V
C612	1-102-228-00	CERAMIC	470PF	10%	500V
C614	1-126-101-11	ELECT	100MF	20%	16V
C616	⚠ 1-164-246-11	CERAMIC	0.0022MF	20%	400V
C618	1-126-233-11	ELECT	22MF	20%	50V
C621	⚠1-136-517-11	FILM	0.22MF	20%	300V
C623	⚠1-164-246-11	CERAMIC	0.0022MF	20%	400V
C624	1-161-754-00	CERAMIC	0.001MF	10%	2KV
C625	⚠ 1-136-517-11	FILM	0.22MF	20%	300V
C626	⚠1-163-161-91	CERAMIC CHIP	15PF	5%	50V
C627	⚠ 1-163-161-91	CERAMIC CHIP	15PF	5%	50V
C801	1-106-359-00	MYLAR	0.0047MF	10%	400V
C802	1-102-212-00	CERAMIC	820PF	10%	500V
C803	1-102-244-00	CERAMIC	220PF	10%	500V
C804	1-126-101-11	ELECT	100MF	20%	16V
C805	⚠1-136-076-11	FILM	0.0085MF	3%	2KV
C806	1-106-389-00	MYLAR	0.082MF	10%	200V
C807	⚠1-162-116-51	CERAMIC	680PF	10%	2KV
C808	1-136-932-11	FILM	0.82MF	5%	100V
C809	1-106-367-00	MYLAR	0.01MF	10%	400V
C811	1-136-629-21	FILM	0.82MF	5%	160V
C812	1-124-634-11	ELECT	1MF	20%	250V
C813	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C814	1-123-932-00	ELECT	4.7MF	20%	160V
C815	1-126-233-11	ELECT	22MF	20%	50V
C816	1-102-228-00	CERAMIC	470PF	10%	500V
C817	1-123-948-00	ELECT	22MF	20%	250V
C818	1-106-375-12	MYLAR	0.022MF	10%	250V
C819	1-162-114-00	CERAMIC	0.0047MF		2KV
C820	1-162-318-11	CERAMIC	0.001MF	10%	500V
C821	1-126-101-11	ELECT	100MF	20%	16V
C822	1-162-318-11	CERAMIC	0.001MF	10%	500V
C823	1-126-233-11	ELECT	22MF	20%	50V
C824	1-124-913-95	ELECT	470MF	20%	50V
C825	1-106-367-00	MYLAR	0.01MF	10%	400V
C826	1-137-146-91	FILM	0.15MF	10%	250V
C840	1-124-902-00	ELECT	0.47MF	20%	50V

<FILTER>

CD101	1-579-110-11	DISCRIMINATOR, CERAMIC
CF501	1-404-801-31	TRAP, CERAMIC
SWF101	1-579-120-11	FILTER, SURFACE WAVE
XF501	1-527-840-00	FILTER, CERAMIC

<CONNECTOR>

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
CNA21	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
CNA31	*1-568-881-51	PIN, CONNECTOR 6P	
CNA61	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
CNA62	*1-566-664-11	PIN, CONNECTOR 4P	
CNA64	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CNA81	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
CNA82	*1-568-536-11	PLUG (MINIATURE DY) 6P	
CNA83	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
		<TRIMMER>	
CT332	1-141-418-11	CAP, ADJ	
		<DIODE>	
D002	8-719-920-55	DIODE SPR-54MVW	
	4-200-407-01	HOLDER, LED; D002	
D004	8-719-914-44	DIODE DAP202K	
D007	8-719-400-18	DIODE MA152WK	
D008	8-719-400-41	DIODE MA3051	
D009	8-719-400-41	DIODE MA3051	
D010	8-719-914-44	DIODE DAP202K	
D013	8-719-914-44	DIODE DAP202K	
D015	8-719-911-19	DIODE 1SS119	
D020	8-719-911-19	DIODE 1SS119	
D101	8-719-929-08	DIODE HZS7.5NB3	
D102	8-719-929-08	DIODE HZS7.5NB3	
D103	8-719-929-08	DIODE HZS7.5NB3	
D104	8-719-400-18	DIODE MA152WK	
D110	8-719-928-89	DIODE HZS5.1NB2	
D301	8-719-914-44	DIODE DAP202K	
D302	8-719-800-76	DIODE 1SS226	
D303	8-719-400-18	DIODE MA152WK	
D305	8-719-800-76	DIODE 1SS226	
D306	8-719-400-18	DIODE MA152WK	
D313	8-719-800-76	DIODE 1SS226	
D321	8-719-928-94	DIODE HZS5.6NB3	
D324	8-719-914-44	DIODE DAP202K	
D333	8-719-911-19	DIODE 1SS119	
D402	8-719-109-96	DIODE RD6.8ES-B1	
D403	8-719-109-96	DIODE RD6.8ES-B1	
D404	8-719-109-96	DIODE RD6.8ES-B1	
D405	8-719-929-12	DIODE HZS8.2NB3	
D406	8-719-929-12	DIODE HZS8.2NB3	
D410	8-719-109-96	DIODE RD6.8ES-B1	
D411	8-719-109-96	DIODE RD6.8ES-B1	
D417	8-719-914-44	DIODE DAP202K	
D418	8-719-914-44	DIODE DAP202K	
D426	8-719-109-96	DIODE RD6.8ES-B1	
D501	8-719-300-33	DIODE RU-3AM	
D503	8-719-911-19	DIODE 1SS119	
D504	8-719-400-18	DIODE MA152WK	
D519	8-719-400-18	DIODE MA152WK	
D601	⚠8-719-946-90	DIODE KBU4JL-6088	
D602	8-719-300-65	DIODE ES1F	
D603	8-719-911-55	DIODE U05G	
D604	8-719-979-85	DIODE EGP20G	
D605	8-719-300-33	DIODE RU-3AM	
D606	8-719-980-78	DIODE ERA83-006	
D607	8-719-300-33	DIODE RU-3AM	
D608	8-719-300-33	DIODE RU-3AM	
D609	8-719-911-55	DIODE U05G	
D610	8-719-911-55	DIODE U05G	
D611	8-719-303-49	DIODE R2M	
D801	8-719-945-80	DIODE ERC06-15S	
D802	8-719-979-85	DIODE EGP20G	
D803	8-719-300-33	DIODE RU-3AM	
D805	8-719-300-33	DIODE RU-3AM	
D806	8-719-300-65	DIODE ES1F	
D807	8-719-300-33	DIODE RU-3AM	
D808	8-719-300-33	DIODE RU-3AM	
D810	8-719-911-55	DIODE U05G	
D811	8-719-911-55	DIODE U05G	
D820	8-719-911-19	DIODE 1SS119	
		<DELAY LINE>	
DL301	1-236-062-11	MODULE, Y DELAY LINE	
		<FUSE>	
F601	⚠1-576-016-11	FUSE, GLASS-TUBE (TIME-LAG) 3.15A/250V	
	1-533-230-11	HOLDER, FUSE; F601	
		<IC>	
IC001	8-759-502-56	IC PCA84C840P-BE2A	
IC002	8-759-988-32	IC ST24C02CP	
IC003	8-749-920-65	IC KEY-C00SV	
IC004	8-759-805-37	IC L78LR05D-MA	
IC005	8-759-157-40	IC UPC574J	
IC102	8-759-502-60	IC TDA3827	
IC201	8-759-502-74	IC TDA7245	
IC301	8-759-505-39	IC TDA4660V2	
IC302	8-759-947-19	IC TDA3505-V9	
IC331	8-759-990-29	IC TDA4650	
IC501	8-759-113-05	IC UPC1488H	
	*4-389-343-01	SPRING; IC501	
IC502	8-759-502-59	IC TDA4504B	
IC601	8-749-901-65	IC STR54041	
	*4-368-683-01	SPRING; IC601	
IC801	8-759-945-58	IC RC4558P	
IC802	8-759-604-39	IC M5F78M12L	
	*4-389-343-01	SPRING; IC802	
		<JACK>	
J201	1-562-837-11	JACK	
J401	1-561-534-00	SOCKET 21P	
J402	1-563-500-11	JACK BLOCK, PIN (L TYPE) 2P	
		<COIL>	
L001	1-408-409-00	INDUCTOR	10UH
L102	1-408-409-00	INDUCTOR	10UH
L103	1-408-399-00	INDUCTOR	1.5UH
L105	1-410-872-21	INDUCTOR	10UH
L106	1-408-415-00	INDUCTOR	33UH
L107	1-408-410-00	INDUCTOR	12UH
L201	1-408-409-00	INDUCTOR	10UH
L301	1-408-409-00	INDUCTOR	10UH
L302	1-408-419-00	INDUCTOR	68UH
L303	1-408-425-00	INDUCTOR	220UH
L331	1-404-554-11	COIL	
L404	1-408-397-00	INDUCTOR	1UH
L405	1-408-409-00	INDUCTOR	10UH
L406	1-408-417-00	INDUCTOR	47UH

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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REF.NO.	PART NO.	DESCRIPTION	REMARK
L501	1-404-493-00	COIL	
L502	1-408-407-00	INDUCTOR 6.8UH	
L506	1-408-411-00	INDUCTOR 15UH	
L801	1-407-365-00	COIL,CHOKE	
L802	*1-420-872-00	COIL, AIR CORE	
L804	1-459-856-11	COIL, FERRITE	
L805	1-408-236-00	INDUCTOR 2.7MMH	
L806	1-459-756-12	COIL, HORIZONTAL LINEARITY	
L807	1-410-067-21	INDUCTOR 4.7MMH	
L808	1-408-226-00	INDUCTOR 82UH	
L809	1-407-504-00	INDUCTOR 10MMH	
LV301	1-404-554-11	COIL	
		<IC LINK>	
PS801⚠	1-532-679-91	LINK, IC (ICP-N15) 0.6A	
		<TRANSISTOR>	
Q001	8-729-271-22	TRANSISTOR 2SC2712-G	
Q003	8-729-901-01	TRANSISTOR DTC144EK	
Q004	8-729-271-22	TRANSISTOR 2SC2712-G	
Q005	8-729-216-22	TRANSISTOR 2SA1162-G	
Q006	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q007	8-729-271-22	TRANSISTOR 2SC2712-G	
Q008	8-729-901-04	TRANSISTOR DTA114EK	
Q009	8-729-901-01	TRANSISTOR DTC144EK	
Q015	8-729-271-22	TRANSISTOR 2SC2712-G	
Q016	8-729-901-47	TRANSISTOR DTA143EK	
Q017	8-729-216-22	TRANSISTOR 2SA1162-G	
Q019	8-729-901-06	TRANSISTOR DTA144EK	
Q020	8-729-901-00	TRANSISTOR DTC124EK	
Q101	8-729-901-47	TRANSISTOR DTA143EK	
Q102	8-729-901-47	TRANSISTOR DTA143EK	
Q103	8-729-901-47	TRANSISTOR DTA143EK	
Q104	8-729-271-22	TRANSISTOR 2SC2712-G	
Q106	8-729-271-22	TRANSISTOR 2SC2712-G	
Q107	8-729-216-22	TRANSISTOR 2SA1162-G	
Q112	8-729-271-22	TRANSISTOR 2SC2712-G	
Q114	8-729-901-00	TRANSISTOR DTC124EK	
Q115	8-729-901-00	TRANSISTOR DTC124EK	
Q141	8-729-000-12	TRANSISTOR BF959	
Q302	8-729-271-22	TRANSISTOR 2SC2712-G	
Q303	8-729-271-22	TRANSISTOR 2SC2712-G	
Q304	8-729-271-22	TRANSISTOR 2SC2712-G	
Q305	8-729-271-22	TRANSISTOR 2SC2712-G	
Q307	8-729-216-22	TRANSISTOR 2SA1162-G	
Q310	8-729-271-22	TRANSISTOR 2SC2712-G	
Q311	8-729-216-22	TRANSISTOR 2SA1162-G	
Q336	8-729-901-00	TRANSISTOR DTC124EK	
Q401	8-729-271-22	TRANSISTOR 2SC2712-G	
Q457	8-729-216-22	TRANSISTOR 2SA1162-G	
Q504	8-729-271-22	TRANSISTOR 2SC2712-G	
Q505	8-729-216-22	TRANSISTOR 2SA1162-G	
Q601	8-729-906-74	TRANSISTOR BC637-16	
Q801	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q802	8-729-925-64	TRANSISTOR BU508AS2	
Q803	8-729-107-26	TRANSISTOR 2SD1585-K	
		<RESISTOR>	
JR001	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR002	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR003	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR004	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR005	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR006	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR007	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR008	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR009	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR010	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR011	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR012	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR013	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR014	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR015	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR016	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR017	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR018	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR019	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR020	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR022	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR023	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR024	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR025	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR026	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR027	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR028	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR029	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR034	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR035	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR036	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR037	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR040	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR045	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR101	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR102	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR103	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR104	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR105	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR106	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR109	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR111	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR112	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR114	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR117	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR118	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR119	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR121	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR122	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR123	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR124	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR125	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR126	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR127	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR128	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR129	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR130	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR131	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR132	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR133	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR134	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR135	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR136	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR137	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR139	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR140	1-216-296-00	METAL GLAZE 0 5% 1/8W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR144	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR146	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR147	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR148	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR154	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR155	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R001	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R002	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R003	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R004	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R005	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W	
R006	1-216-246-00	METAL GLAZE	100K	5%	1/8W	
R007	1-216-190-00	METAL GLAZE	470	5%	1/8W	
R008	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R009	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R010	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R011	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R012	1-216-240-00	METAL GLAZE	56K	5%	1/8W	
R013	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R014	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R015	1-216-230-00	METAL GLAZE	22K	5%	1/8W	
R016	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R017	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R018	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R019	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R020	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R021	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R022	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R023	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R024	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R025	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R026	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R028	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R029	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R030	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R031	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R032	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R033	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R034	1-216-238-00	METAL GLAZE	47K	5%	1/8W	
R035	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R037	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R038	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R039	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R040	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R041	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R042	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R043	1-215-900-11	METAL OXIDE	22K	5%	2W	
R044	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R045	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R046	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R047	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R048	1-216-202-00	METAL GLAZE	1.5K	5%	1/8W	
R049	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R050	1-216-250-00	METAL GLAZE	150K	5%	1/8W	
R051	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R052	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R053	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R054	1-249-395-11	CARBON	15	5%	1/4W	
R055	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R056	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R058	1-249-434-11	CARBON	27K	5%	1/4W	
R059	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R060	1-216-234-00	METAL GLAZE	33K	5%	1/8W	
R061	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R062	1-216-242-00	METAL GLAZE	68K	5%	1/8W	
R064	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R075	1-216-240-00	METAL GLAZE	56K	5%	1/8W	
R076	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R077	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R078	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R079	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R081	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R082	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R083	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R084	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R087	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R090	1-249-429-11	CARBON	10K	5%	1/4W	
R094	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R095	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R096	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R097	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R099	1-216-228-00	METAL GLAZE	18K	5%	1/8W	
R100	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R101	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R102	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R103	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R104	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R105	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R106	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R107	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R108	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R109	1-216-190-00	METAL GLAZE	470	5%	1/8W	
R110	1-249-437-11	CARBON	47K	5%	1/4W	
R111	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R112	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R113	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R114	1-216-238-00	METAL GLAZE	47K	5%	1/8W	
R115	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R116	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R118	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R119	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R127	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R130	1-249-409-11	CARBON	220	5%	1/4W	
R131	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R132	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R134	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R135	1-249-430-11	CARBON	12K	5%	1/4W	
R136	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R138	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R139	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R140	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R141	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R142	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R143	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R144	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R147	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R148	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R149	1-216-182-00	METAL GLAZE	220	5%	1/8W	
R151	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R152	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R153	1-215-867-00	METAL OXIDE	470	5%	1W	
R154	**1-216-295-00**	**METAL GLAZE**	**0**	**5%**	**1/10W**	
R201	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R202	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R203	1-216-298-00	METAL GLAZE	2.2	5%	1/10W	
R204	1-247-741-11	CARBON	150	5%	1/2W	
R205	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R206	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R207	1-216-298-00	METAL GLAZE	2.2	5%	1/10W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R303	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R304	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R305	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R306	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R307	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R308	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R309	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R310	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R311	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R312	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R313	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R314	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R315	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R316	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R317	1-216-202-00	METAL GLAZE	1.5K	5%	1/8W	
R320	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R321	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R322	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R323	1-216-192-00	METAL GLAZE	560	5%	1/8W	
R324	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R325	1-249-410-11	CARBON	270	5%	1/4W	
R326	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R327	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R328	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R329	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R330	1-216-244-00	METAL GLAZE	82K	5%	1/8W	
R331	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R332	1-216-270-00	METAL GLAZE	1M	5%	1/8W	
R333	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R334	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R335	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R336	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R337	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R338	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R340	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R341	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R342	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R347	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R348	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R349	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R350	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R351	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R352	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R353	1-249-438-11	CARBON	56K	5%	1/4W	
R354	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R355	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R356	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R357	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R360	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R362	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R363	1-216-222-00	METAL GLAZE	10K	5%	1/8W	
R364	1-216-222-00	METAL GLAZE	10K	5%	1/8W	
R402	1-216-172-00	METAL GLAZE	82	5%	1/8W	
R403	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R404	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R405	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R406	1-216-226-00	METAL GLAZE	15K	5%	1/8W	
R407	1-216-226-00	METAL GLAZE	15K	5%	1/8W	
R408	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R409	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R411	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R412	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R413	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R414	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R420	1-216-182-00	METAL GLAZE	220	5%	1/8W	
R423	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R424	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R425	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R426	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R427	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R428	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R430	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R431	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R432	1-249-402-11	CARBON	56	5%	1/4W	
R433	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R434	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R435	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R436	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R437	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R501	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W	
R502	1-247-743-11	CARBON	220	5%	1/2W	
R503	1-249-437-11	CARBON	47K	5%	1/4W	
R504	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R505	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R507	1-216-350-11	METAL OXIDE	1.2	5%	1W	F
R508	1-215-867-00	METAL OXIDE	470	5%	1W	
R510	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R511	1-216-244-00	METAL GLAZE	82K	5%	1/8W	
R512	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R513	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R514	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R515	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R516	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R517	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R518	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R519	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R521	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R522	1-215-863-11	METAL OXIDE	100	5%	1W	
R523	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R524	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R525	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R527	1-215-869-11	METAL OXIDE	1K	5%	1W	
R532	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R533	1-216-133-00	METAL GLAZE	3.3M	5%	1/10W	
R534	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R535	1-216-107-00	METAL GLAZE	270K	5%	1/10W	
R539	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R542	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R543	1-249-408-11	CARBON	180	5%	1/4W	
R545	1-216-278-00	METAL GLAZE	2.2M	5%	1/8W	
R548	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R601 ⚠	1-205-909-11	WIREWOUND	3.3	5%	10W	F
R602	1-214-923-00	CARBON	270K	5%	1/2W	
R603	1-215-903-11	METAL OXIDE	68K	5%	2W	
R604	1-247-752-11	CARBON	1K	5%	1/2W	
R605 ⚠	1-218-265-91	METAL GLAZE	8.2M	5%	1W	
R606	1-212-877-11	FUSIBLE	68	5%	1/4W	
R608	1-215-884-11	METAL OXIDE	47	5%	2W	
R609	1-207-905-00	WIREWOUND	0.27	10%	2W	
R611	1-214-915-00	CARBON	120K	5%	1/2W	
R612	1-217-809-11	FUSIBLE	0.33	5%	1/4W	
R613	1-217-811-11	FUSIBLE	0.47	5%	1/4W	
R614	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R615	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R617	1-216-354-11	METAL OXIDE	2.7	5%	1W	F
R620	1-216-465-11	METAL OXIDE	27K	5%	2W	
R621	1-216-465-11	METAL OXIDE	27K	5%	2W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R801	1-217-778-11	FUSIBLE	1K	5%	1W	F
R802	1-217-826-11	FUSIBLE	10K	5%	1/4W	
R803	1-216-355-11	METAL OXIDE	3.3	5%	1W	F
R804	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R805	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R806	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R807	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R808	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R809	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R810	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R811	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R812	1-215-869-11	METAL OXIDE	1K	5%	1W	
R813	1-212-877-11	FUSIBLE	68	5%	1/4W	
R814	1-217-820-11	FUSIBLE	3.3K	5%	1/4W	
R816	1-247-889-00	CARBON	270K	5%	1/4W	
R817	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R818	1-202-830-00	SOLID	10K	10%	1/2W	
R819	1-217-811-11	FUSIBLE	0.47	5%	1/4W	
R820	1-217-811-11	FUSIBLE	0.47	5%	1/4W	
R821	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R822	1-216-204-00	METAL GLAZE	1.8K	5%	1/8W	
R824	1-215-863-11	METAL OXIDE	100	5%	1W	F
R826	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R827	1-216-081-00	METAL GLAZE	22K	5%	1/10W	

<VARIABLE RESISTOR>

RV001	1-238-012-11	RES, ADJ, CARBON 1K
RV331	1-238-012-11	RES, ADJ, CARBON 1K
RV501	1-238-016-11	RES, ADJ, CARBON 10K
RV502	1-226-703-11	RES, ADJ, METAL GLAZE 10K
RV503	1-238-019-11	RES, ADJ, CARBON 47K
RV504	1-238-019-11	RES, ADJ, CARBON 47K
RV505	1-238-009-11	RES, ADJ, CARBON 220
RV801	1-238-019-11	RES, ADJ, CARBON 47K

<SWITCH>

S001	1-571-532-21	SWITCH, TACTIL
S002	1-571-532-21	SWITCH, TACTIL
S003	1-571-532-21	SWITCH, TACTIL
S601 ⚠	1-571-433-11	SWITCH, PUSH (AC POWER)

<SPARK GAP>

SG801	1-519-422-11	GAP, SPARK

<TRANSFORMER>

T601 ⚠	1-450-217-11	S.R.T
T603 ⚠	1-421-776-11	LFT
T604 ⚠	1-424-078-11	TRANSFORMER, TRIGGER PULSE
T605 ⚠	1-424-391-11	TRANSFORMER, LINE FILTER
T801	1-437-090-00	HDT
T802 ⚠	1-439-432-11	TRANSFORMER ASSY, FLYBACK (UX-1620)

<THERMISTOR>

THP601 ⚠	1-806-165-12	THERMISTOR (POSITIVE)

<TUNER>

TU101 ⚠	1-465-541-11	TUNER TERE1X054A (BT-3C 301)

<CRYSTAL>

X001	1-577-619-11	VIBRATOR, CRYSTAL
X332	1-567-131-00	OSCILLATOR, CRYSTAL

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*A-1638-008-A	C BOARD, COMPLETE	
	**********	
*4-374-912-01	COVER (MAIN), CV VOL	
*4-374-913-01	COVER (REAR LID), CV VOL	

<CAPACITOR>

C701	1-163-127-00	CERAMIC CHIP 270PF	5%	50V
C702	1-163-127-00	CERAMIC CHIP 270PF	5%	50V
C703	1-163-129-00	CERAMIC CHIP 330PF	5%	50V
C704	1-163-005-11	CERAMIC CHIP 470PF	10%	50V
C705	1-163-005-11	CERAMIC CHIP 470PF	10%	50V
C706	1-163-005-11	CERAMIC CHIP 470PF	10%	50V
C707	1-123-947-00	ELECT 10MF	20%	250V
C708	1-162-116-00	CERAMIC 680PF	10%	2KV
C709	1-136-666-11	FILM 0.01MF	5%	1KV
C710	1-124-477-11	ELECT 47MF	20%	16V
C711	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C712	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C713	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V

<CONNECTOR>

CNC71	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P
CNC72	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
CNC73	*1-568-881-51	PIN, CONNECTOR 6P
CNC74	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P

<DIODE>

D701	8-719-400-18	DIODE MA152WK
D702	8-719-400-18	DIODE MA152WK
D703	8-719-400-18	DIODE MA152WK
D704	8-719-400-18	DIODE MA152WK
D705	8-719-400-18	DIODE MA152WK
D706	8-719-911-19	DIODE 1SS119
D707	8-719-400-18	DIODE MA152WK
D708	8-719-400-18	DIODE MA152WK
D709	8-719-400-18	DIODE MA152WK
D710	8-719-800-76	DIODE 1SS226
D711	8-719-800-76	DIODE 1SS226
D712	8-719-800-76	DIODE 1SS226

<JACK>

J901	1-526-819-11	SOCKET, PICTURE TUBE

<TRANSISTOR>

Q701	8-729-271-22	TRANSISTOR 2SC2712-G
Q702	8-729-271-22	TRANSISTOR 2SC2712-G
Q703	8-729-271-22	TRANSISTOR 2SC2712-G
Q704	8-729-906-70	TRANSISTOR BF871
Q705	8-729-906-70	TRANSISTOR BF871
Q706	8-729-906-70	TRANSISTOR BF871
Q707	8-729-200-17	TRANSISTOR 2SA1091-O
Q708	8-729-200-17	TRANSISTOR 2SA1091-O

C

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
Q709	8-729-200-17	TRANSISTOR 2SA1091-0				
		<RESISTOR>				
JW121	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R701	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R702	1-216-210-00	METAL GLAZE	3.3K	5%	1/8W	
R703	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R704	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R705	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R706	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R707	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R708	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R709	1-216-196-00	METAL GLAZE	820	5%	1/8W	
R710	1-249-413-11	CARBON	470	5%	1/4W	
R711	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R712	1-247-893-11	CARBON	390K	5%	1/4W	
R713	1-247-883-00	CARBON	150K	5%	1/4W	
R714	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R715	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R716	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R717	1-202-824-00	SOLID	3.3K	10%	1/2W	
R718	1-202-824-00	SOLID	3.3K	10%	1/2W	
R719	1-202-824-00	SOLID	3.3K	10%	1/2W	
R720	1-216-463-00	METAL OXIDE	12K	5%	2W	
R721	1-216-463-00	METAL OXIDE	12K	5%	2W	
R722	1-216-463-00	METAL OXIDE	12K	5%	2W	
R723	1-249-398-11	CARBON	27	5%	1/4W	F
R726	1-202-719-00	SOLID	1M	10%	1/2W	
R727	1-202-838-00	SOLID	100K	10%	1/2W	
R728	1-202-842-11	SOLID	220K	10%	1/2W	
R729	1-216-348-00	WIREWOUND	0.82	10%	1/2W	
R731	1-202-719-00	SOLID	1M	10%	1/2W	
R732	1-216-262-00	METAL GLAZE	470K	5%	1/8W	
R734	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R735	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R736	1-249-421-11	CARBON	2.2K	5%	1/4W	
		<VARIABLE RESISTOR>				
RV701	1-237-749-11	RES, ADJ, CARBON 2200				
RV702	1-237-749-11	RES, ADJ, CARBON 2200				
RV703	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M				
RV704	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M				
RV705	1-230-798-11	RES, ADJ, METAL GLAZE 90M				
		MISCELLANEOUS				
⚠	1-426-145-21	COIL, DEGAUSSING				
⚠	1-451-249-31	DEFLECTION YOKE (Y14NDA2)				
	1-452-032-00	MAGNET, DISK; 10MM φ				
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ				
	1-452-277-00	MAGNET, BMC				
	1-544-374-11	SPEAKER				
⚠	1-575-487-11	CORD,POWER (WITH NOISE FILTER)				
V901 ⚠	8-735-555-75	PICTURE TUBE (A34JBU10X)				

ACCESSORIES AND PACKING MATERIALS

PART NO.	DESCRIPTION	REMARK
1-417-154-11	MATCHING TRANSFORMER, ANTENNA	
1-501-372-21	ANTENNA, TELESCOPIC	
4-200-397-11	MANUAL, INSTRUCTION	
*4-200-423-01	CUSHION (LOWER) (ASSY)	
*4-200-424-01	CUSHION (UPPER) (ASSY)	
*4-200-426-01	INDIVIDUAL CARTON	
*4-384-927-01	BAG, PROTECTION	

REMOTE COMMADNER

1-465-562-11	CONTROL UNIT, REMOTE (RM-694)	
4-395-610-01	COVER, BATTERY (FOR RM-694)	

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